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HOUSE AND GARDEN

A monthly magazine devoted to
Architecture, Gardens, Decorations
Civic and Outdoor Art



VOLUME NINE

January to June, 1906

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House and Garden

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House & Garden

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HISTORIC HOUSES—THE JONATHAN HARRINGTON HOUSE, LEXINGTON, MASSACHUSETTS

House and Garden

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January, 1906

No. 1

THE INTERIOR FINISH AND FURNISHING OF THE SMALL HOUSE—II.

BY MARGARET GREENLEAF

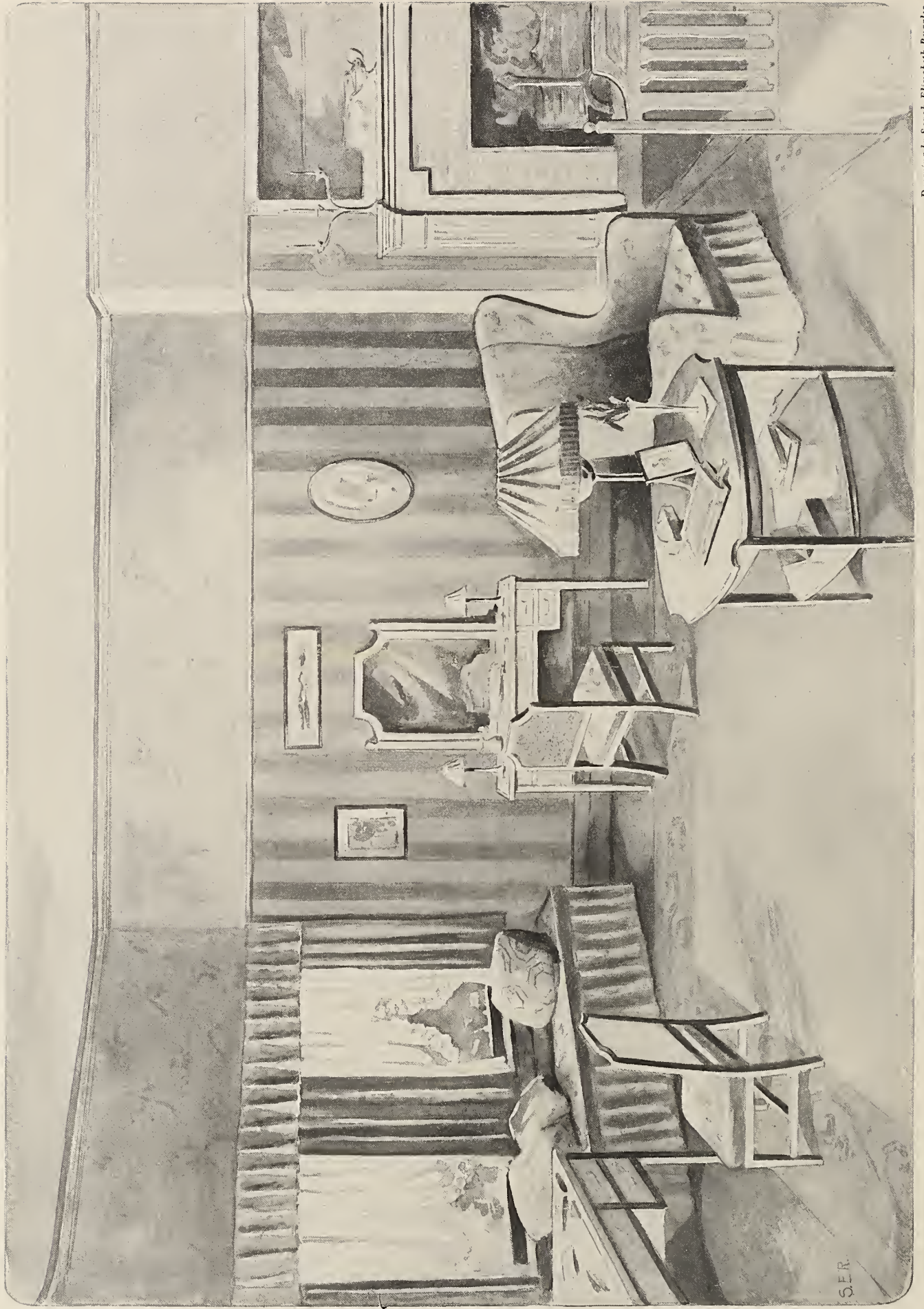
IN the small house, the lower floor of which was described in a previous article, the wide stairway leading to the upper room was broken midway by a small landing; a deep casement window was set here with built-in seat below; this seat was upholstered with dull green velvet and bore pillows covered with raw silk in pastel tones. The treads of the stairway were uncovered, stained like the floor below, and finished with two coats of florsatin. The same stain and finish was used on the standing woodwork as that in the room from which the stairs ascended.

The walls of the small upper hall were covered in a goldenrod shade of grass cloth which agreed perfectly with the various colors shown in the rooms opening from it. The standing woodwork of this hall had been treated with ivory eggshell-white enamel. The ceiling was tinted in exactly the same shade. A small settle and table were here, the latter holding a plant; these were of birch stained a brown mahogany. The restrained dignity of treatment felt in the lower rooms of this house pervaded its upper chambers, though in a lesser degree. The furniture used in the bedrooms is simple and plain in line, but more delicate in form. The standing woodwork in all of the rooms is of white wood which had been treated with the various enamels best harmonizing with the color scheme of the room.

The portion of the front bedroom,—which is also the largest,—extending over the veranda below, is shown in the picture. A well-wrought-out color scheme was used here. The minutest particular of every detail has been treated with the same careful consideration as was given to the selection of furniture and wall covering. The latter in this room is of two-toned, almost invisible stripe, in dull shades of green flock paper (the room faces south); the upper third of the wall covered in a glazed English paper of dainty and exquisite coloring,—pale spring blossoms, a mingling of crocus and pink spiræa, with foliage in green pastel shades, which harmonized perfectly with the deeper shades of the same color in the lower wall. The standing woodwork

had been treated with ivory eggshell-white enamel, like that used in the hall; the picture rail set at the joining of the lower wall paper with the figured upper, and also the mold at the ceiling line were treated with the same enamel. The mantel was an attractive feature of this room, the fireplace being wide and deep, holding brass andirons of simple design; the mantel itself was suggestive of Colonial, the wide mirror extended almost its length above the narrow shelf; the frame of this was dull and entirely without ornamentation. The tile used about the fireplace and hearth was in the shade of jade green, slightly deeper in tone than the side walls, and of unglazed surface.

The window treatment was especially good; glazed English chintz, repeating exactly the color and design of the upper wall, was used as a valance twelve inches deep, and for the straight hanging curtains outlining the windows reaching to the sill. Next the glass were draperies of sheer white muslin with tiny embroidered dots; these curtains were made with $2\frac{1}{2}$ inch ruffles up the front and were caught back on either side and held in place by bands of the muslin tied in crisp smart bows; these curtains were run by a casing at the top, on slender brass extension rods, and set close to the window. The glazed chintz curtains were laid in scant folds, the stiffness of the material necessitating and calling for this treatment. The lower edge of the valance, as well as the lower edge and sides of the long curtains, were finished by an inch wide cotton fringe which showed white and green. The seat below was a dress box, the top being lightly but comfortably padded and upholstered with the chintz; a flounce of which, laid in shallow pleats, completed it. The pillows were covered in Parma satin, a glossy cotton fabric which launders well. This material comes in beautiful tones, those selected here being pastel green, soft light yellow and dull old rose. The furniture in this room had all been treated with the ivory enamel in precisely the same tone as the woodwork. The seats of the chairs were covered with the glazed chintz, as was also the



A SIMPLE TREATMENT FOR A FRONT BEDROOM IN A HOUSE OF MODERATE COST

Drawing by Sarah Elizabeth Ruggles

The Interior Finish and Furnishing of the Small House

winged chair. The large Wilton rug which held the center of the floor was in two tones of mossy-green, much darker in color but entirely in harmony with the wall covering.

A bed of simple cottage design was kept all in white. A large black fur rug was effectively used before the fireplace. This strong mass of black accentuated and brought out the color scheme of the room very beautifully; a touch of black appeared again in the frames of the pictures on the wall.

Upon the pretty dressing-table, crystal candlesticks were used with little fluted shades of pink silk. The same color and material was in larger form on the crystal lamp which held the centre of the small table, placed attractively near the inviting winged chair. A book cover made from a bit of dull green Venetian brocade and trimmed about with gold galloon, lay on the table. Even the small work-box played its part in the scheme of the room, it being of pale green, faint yellow and pink straw.

The woman who was responsible for the beauty of this house, admitted that this small basket box was really accountable for the color scheme of the room. "A Christmas box of bonbons it was," she said, "and as I was then planning my house, the attractive and rather unusual mingling of these colors in these particular tones appealed to me. I decided to use this for my spools and skeins, and from it built up my room. I determined to find a wall paper showing these colors. Imagine my pleasure one day in the early spring, to discover displayed in the window of one of the leading shops this very paper, with the glazed chintz draped beside it. They insisted in the shop that the entire wall covering should be of this figured paper, with window draperies and furniture covering of the chintz, when, armed with my little basket, I went in to try the colors. They harmonized perfectly. My own decision, however, was quickly taken,—it would be impossible for me to live in a room with walls covered completely with the figured paper, the design repeated in the draperies,—and I found, after much search, the two-toned stripe in exactly the proper shades of green; it is the white light in the green that makes this so restful. The curtains, you see, are brought only against the plain wall, and to my mind the effect is much more attractive. Every bit of pink and green and yellow used in this room, has been carefully matched and tried out with the coloring of the wall paper and chintz, even the Fra Angelica angels in the round gold frame above my mantel showing the same colors in deeper tones. When my room was completed, I felt it needed some strong accentuating note, and decided upon the purchase of the black fur rug. I searched vainly for a rug of the size and quality I wished which came within my price; finally I bought two of the Japanese goat skins, selecting them from dozens

that were shown me. These skins show a good lustre, and when carefully joined, as they have been, the effect, I think, is rather good, and particularly satisfactory since they cost me but \$6.00 each."

The electric fixtures in the room were simple in design and of brush brass, the only elaboration being the candelabra effect on either side of the mantel. These candelabra were found in a second-hand shop and cost \$5.50 for the pair; they were carefully cleaned and finished to suit the other fixtures in the room, and wired and fitted with electric candles.

The room over the den, adjoining this apartment, one realized at once was intended for a man's room. The walls were covered in pewter gray grass cloth; the ceiling of ivory white extended to the picture rail. The furniture was of perfectly simple lines and comprised a single bed, a chiffonier, some bookshelves, an easy chair, a writing table, and some smaller chairs—all of comfortable design. The casement windows were hung with straight curtains next the glass, of sheer white organdy, made with three-inch hems; over these were placed straight draperies of raw silk. The upholstery of the chairs and covering of the window seat was of cut green velvet, rich and dark in tone; the door curtain was also of this material. The furniture was stained, as was the woodwork, with black-oak wood tint and given a flat dull finish.

On the writing table much red morocco was used; pad, letter-box and ink-well holder, showed a brilliant scarlet. Hunting prints of pink-coated horsemen repeated this color on the walls. A rug of two-toned Brussels in shades of very dark green covered the centre of the floor. All hardware and fixtures were of wrought iron. The bold bits of brilliant scarlet introduced in this room saved it from sombreness. The handling of the plain masses of color was extremely well done, the effect being strong and characteristic.

The guest chamber, nursery and bath rooms remain to be described in this very perfect house. The bath room had tiled wainscot to the height of seven feet, the tiling being of jade green with flecks of white; the upper surface of the sanded wall, and also the ceiling, had been painted in pure white, in oil. All standing woodwork had been treated with three coats of flat lead, followed by two coats of No. 10 enamel, which gave a hard surface with a fine gloss. All fixtures were of nickel plate and glass; wherever possible glass was used, the rod for towels and the shelves for bottles were all of it. The rug of green and white was washable, as in fact, was everything in this hygienic bath room. The high diamond-pane window was curtained with green and white muslin.

The nursery showed the same study of detail as the other rooms of the house. The rough plaster walls were painted in oil, the last coat being flatted by turpentine. From the picture rail to the ceiling



A MAN'S BEDROOM SIMPLY TREATED

Drawing by Sarah Elizabeth Ruggles

The Interior Finish and Furnishing of the Small House

line, the upper third of the room was covered with an attractive nursery paper of English make, known as the "Goose Girl Pattern." The design showed smiling little maids in sabots, the white of their caps repeated again in waddling fat geese which followed them in endless procession around the room. The ceiling was white, as was also the woodwork. The diminutive furniture of this room made it eminently the realm of the baby. Hangings of yellow linen some shades lighter than the side walls draped the windows over white organdy curtains next the glass. One side of the room was given up to what appeared to be low bookcases with doors. Books, however, filled only a portion of these, the remainder being utilized as a general store room for toys; the doors opened easily and were within reach of the little hands. The maple floor was left in the natural color and finished with florsatin. A two-toned rag rug in shades of blue covered the centre and the chair cushions wore slips of blue and white linen toweling; these could be readily removed and laundered.

The guest-room was of northern exposure; the side walls were covered with an English paper of soft pinkish cream background, against which, apparently thrown with lavish hand, were great clusters of American Beauty roses. Extending to the picture rail, the ceiling was tinted the shade of the background. All woodwork, including the picture rail, in this room was finished with leaf green enamelacq, a shade exactly repeating the soft whitish green color of the foliage of the roses. The casement windows were hung with embroidered muslin in pink and white, with straight hanging over-draperies of thin rose silk, matching the color of the American Beauty roses. The bed of brass was dressed simply with white Marseilles spread, and hem-stitched linen pillow slips, a treatment that was evidently in favor with the mistress of this house, as it was used throughout. A rug of rich, soft crimson Wilton with a two-toned border, held the centre of the floor. The furniture was of willow, comprising a small round table, two easy chairs and a rocker; these chairs were upholstered with square pad cushions covered in

Marlborough velvet in the shade of red of the curtains. The cushions were caught in with buttons and fastened to the backs and seats of the chairs. A window-seat was upholstered in the same and made an inviting lounging-place with book-shelves built in above, within easy reach. A screen, a writing table, and a desk chair were of mahogany and completed the actual furniture used in this pretty room. The book-shelves held a small but choice collection of books, varied enough to please all tastes. The writing table was well stocked with stationery and stamps, and all paraphernalia, including tablets and letter-box. These latter were covered in attractive brocade which harmonized well with the coloring of the room. The inkstand was of silver. The dressing table was complete with all the toilet necessities. The mahogany candle stand near the bed, held, beside the silver candlestick, snuffer and tray, a glass pitcher of quaint design, and a small biscuit jar of glass.

While the amount of money expended—in making this really beautiful home complete—was modest, the time spent in careful study of effects, the thought and the artistic ability which stood for the harmony and comfort of the whole was great. Each room had its story of origin and growth,—the living-room was evolved from the wall paper and the tapestry which was found to match it. The next purchase was the large table; this cost \$30, but was made of ash and put together by hand; in durability it promised to last through successive generations; The same could be believed of the winged chair, which cost \$45, well padded and cushioned. These two pieces established the precedent in quality for the room.

A bit of the wall paper, fabric, and woodwork was carried from shop to shop and tried with all selections made; this included curtains, rugs, and the pillow covers and lamp shades. No smallest purchase was ventured without due consideration, and to this fact the success of the color effects could be attributed.



The Plaza, Guanajuato, Mexico



A MAGNOLIA PANEL BY VICTOR MINDELEFF

VICTOR MINDELEFF'S PAINTINGS

THERE is in Mr. Victor Mindeff's paintings a marked individuality which sets them apart from the mass of current productions and makes them worthy of special consideration. They are at the same time pictorial and decorative; naturalistic and conventional; broad in treatment and fine in finish. Occupying a middle ground between the ancient art of the East and the modern art of the West, they possess distinctly positive qualities and will be found to sacrifice neither force nor freshness to neutrality.

We have many acceptable painters to-day, but exceedingly few with a new message. There are brilliant technicians and clever interpreters, but almost no innovators. The unrest of the present century is continually demanding something novel, but originality eludes deliberate intention and, becoming studied, must cease to exist.

We have "Impressionists" and "Realists," not because certain painters have striven to reproduce pictures unlike those of their colleagues, but rather because they possessed diverse visions and looked upon the world with dissimilar sight. Technique and composition are within each interpreter's control, but the



PETUNIAS

Because the work is primarily spontaneous is not to say, however, that it is altogether unstudied.



A CHRISTMAS MOTIF

BY
LEILA
MECHLIN

individuality which separates one man's work from another's is as inherent and spontaneous as the bodily functions. To be worthy a work must be genuine; and this it can only be through an expression of inward truth.

"I see precisely what your aim has been," a fellow painter said to Mr. Mindeff not long ago. "You have striven for Japanesque simplicity, while subordinating naturalistic treatment to decorative effect." And to some extent he was right; but so involuntary and spontaneous had been the process of reasoning that the immediate reply was, "No, I am afraid that I simply painted what I saw, in the way I felt it should be, thinking that I was transcribing facts." It is this that makes Mr. Mindeff's work both potent and significant.

Though one may arrive at a correct conclusion without a knowledge of the mental process it is not needful to persist in intellectual ignorance. The advice given by a famous teacher to his pupils was, "Learn all the academic rules you can and forget them;" but it is equally true that intuitive perception can only be permanently



MAGNOLIAS

line, but, oddly enough, they are always conceived in color. Their inception is commonly a tiny sketch, made on a fragment of paper—a mere mosaic of color spots—which later, with infinite pains and patience, is worked out into a more or less elaborate composition. The color scheme is invariably the first consideration; the units of the composition being those which best serve as vehicles; the lines refined and perfected as boundaries defining the several elements. Herein is published the decorator—the man who appeals first to the eye and then to the intelligence. The crucial test of a picture is whether or not it wears well. Many canvases attract the beholder upon first sight but lose their charm and even become offensive upon long acquaintance. This is due to a variety of causes, chief among which is a lack of decorative motive. It may be the result of shallow subjective import; of a too staple rendition of a transitive state; of a pleasing color scheme unbalanced by lineal weakness, but whatever the cause one may feel profoundly certain that a picture which does in some measure serve as a decoration will in time prove a tiresome companion. It need not of necessity be primarily decorative, but it must lend itself sympathetically to its environment, unconsciously gratifying the æsthetic sense of the casual observer, while, if it be a great work, it holds its deeper significance in reserve for the thoughtful consideration of those who may linger.

It is on these grounds that Mr. Mindeleff's panels find special favor. While to the general public they are pictures, to the specialist they are decorations. By the artist juries they have been made welcome, and in the architectural exhibitions they have likewise readily found inclusion.

His flowers are studied directly from Nature, but they are adapted rather than transcribed. A dozen studies made at first hand produce a single composition which will, in turn, set forth in simplest form the composite type. Thus a painting of Japanese magnolias while interpreting the flower in naturalistic guise will, in its entirety, represent their structural form and habit of growth more accurately than any single example or realistic group. Unlike the Japanese he does not take advantage of accidents of growth, but endeavors to rather follow Nature and create type. He owns, in connection

with his residence on Georgetown Heights, in Washington, D. C., a most attractive garden, which he has laid out, planted and cared for himself, and in which he has gained an intimate knowledge of his subjects from the time they were set out to

established and confirmed by scholastic principles. Thus Mr. Mindeleff has acquired technical facility through practice, and mental confidence through searching study.

His compositions are peculiarly charming in

Victor Mindeleff's Paintings

the period of their full fruition. They appeal to him as living things, as well as from their decorative motives, and it is the essence of their spirit that he transcribes with his brush. Not their evanescence but their enduring significance; their structure and purpose rather than their fleeting charm. Curiously, perhaps, he rarely presents them in their natural environment—seldom painting them as though out-of-doors—but shows them by preference in juxtaposition with still-life objects which are complementary in color and in line. They are purposeful arrangements, not accidental compositions. Thus the straight lines of a low-toned kakemono serve to accentuate the graceful turning of a bright flower's branch, while the circular outline of a red lacquered plaque is made to suggest the irregularity in the seemingly rotund form of the swamp magnolias, which its color throws into high relief. These objects, while subordinated to the flowers, hold a prominent place in the compositions and are always rendered with extraordinary care and accuracy. They are, as a rule, Japanesque in character and elaborate in device. Commonly, they have a prototype in an existing object, but not infrequently they are in detail evolved from inner consciousness. The compositions once conceived in color—the flowers once presented in fact, the rest works itself out, as it were, without voluntary effort. One part suggests another, and each in turn is called into existence by the necessity of its being.

Because Mr. Mindeleff is an architect it may be that apportionment of space receives at his hands primary consideration. Certainly his compositions find development in accordance with the theory of axis, and while broadly distributed and not overbalanced, there is little or no division between subject and background, for the two, complementing each other, are invariably joined in a unified whole. Every factor is made an integral part of the sum.

In order to heighten the decorative effect, and also further mark the type, small subsidiary panels of purely conventional design are often added by Mr. Mindeleff as auxiliaries to his pictorial compositions. In these the flower, in most instances, finds repetition with its leaf in geometric forms which by contrast recall attention to the graceful irregularity of the principal. Sometimes there is more than one



FLEUR-DE-LIS

panel, and when this is the case the conventionalization is reduced to its lowest terms and the plant made to repeat itself in varying degrees of formality. These reductions are usually of vital interest and import and in themselves worthy of minute



A LOTUS STUDY

Victor Mindeleff's Paintings

and thoughtful examination and study. The character of the mounting is also significant. Frequently of common trunk board, it is always selected with special care as a coördinate part of the composition, and occasionally made a factor in the general scheme by direct decoration. There is certainly not as much in the matting and framing of a picture as in its execution, but there is much more than many suppose, and it is in their attention to these supposedly minor details that the modern Japanese score against their European brothers-of-the-brush.

The general public deals chiefly with results; and it is right that a work of art should be so judged, but it is interesting and likewise instructive sometimes to look into and become fairly familiar with the technical process by which the end is attained. Mr. Mindeleff uses by choice paper not manufactured for or presumably well adapted to the conveyance of water-color pigment—that is crayon or pastel papers, which, however, give him a soft surface and toneful foundation upon which to build. To avoid erasure he draws his design in minute detail on transparent paper from which it can, when the outline is absolutely satisfactory and complete, be transferred. Once fixed in line, the color is laid on in broad, clear washes; the effort being to arrive at the desired effect by first intent and a single application. Unlike the modern Dutch method, the greatest care is taken to prevent one color from flowing into another; and yet while there are no lost outlines there are also no abrupt edges. Mr. Mindeleff rarely uses body color, but his work has more of the attributes of oil paintings than aquarelles. He gives to them force, virility and depth; and yet keeps them crisp, fresh and colorful.

It will perhaps be easiest to realize these characteristics by glancing at some individual examples illustrated herewith. Consider, for instance, the Iris panel. The upper and lower flowers are white, the intervening ones purple and lavender; the kakemono has a blue-green margin, with dark red inner line, and gold marking; the bowl is a tea green, and the incense box, red bronze; while the rug, covering the table, combines in its intricate pattern all the colors found in these and other portions of the composition. The paper is a gray crayon, and in the middle tints of the flowers and high light on the bowl appears unaltered. The irises are broadly rendered; the rug and objects minutely studied. The mount is a coarse, gray board on which a chain-like border, held in place by four conventional *fleur-de-lis*, has been painted. On the left side, this device has



WILD ROSES

been made quite insistent, while on the right it has been greatly diminished in strength. At the top, in the same unobtrusive blue gray as the chain, is an elaborate and more direct conventionalization of the flower; and at the base of the design, in Persian colors, circular devices repeat it with varying significance.

In the magnolia panel and the poppy panel, somewhat the same method of treatment can be noted, though in these the definite conventionalization is confined to the lower subsidiary panels; and



ORIENTAL POPPY

the parallel lines of the suspended kakemono give to the main panels their chief unrealistic suggestion. It is particularly interesting to observe in these the painter's distinctive handling of textures; contrasting the juicy thickness of the magnolia petals with the crumpled frailty of the poppy's silken leaf. In like manner, there is a suggested comparison of natures; the gentleness of the one being in contrast with the fragrance of the other—the freshness of spring tints with the dull intensity of summer color.

A smaller panel of swamp magnolias serves as a

type wherein no still life adjunct is employed. On a background of cool gray paper is shown a most charming naturalistic arrangement of flowers and leaves. The textures are uncommonly well portrayed, and partly by a reduction in the strength of the stems a remarkable illusion of atmosphere and projection is produced. The greens are laid on in flat tints, by first intent, and are complemented by a tiny marginal line of scarlet, which outlines the panels and finds repetition in the lowest conventional unit. This, with the blue and dull gold of the subsidiary panel, gives to the work a sparkle and brilliancy delightful to behold but difficult to describe.

Contrasting sharply with this in character, but suggestively similar in treatment, is a Christmas panel setting forth specimens of the Yule-tide greens—the pine, the mistletoe and the holly. The same defining red line is seen again, framing the interior panel, and a formal cross representing the holly motive is employed as a foil for the unconventionality of the boughs.

Variety again is found in a horizontal magnolia panel which presents a central floral interpretation counterpoised by two small terminal compositions of still life groups; and turning to yet another, an example is found in which still life and flowers are combined in a pictorial composition without direct decorative motif or conventional conceit. This last demonstrates clearly the dormant decorative feeling which the others more openly betray. It is a pleasing mosaic of color without regard to its text—a charming rendition of the peculiar subtlety of this common flower, and moreover a finished piece of technique. To know that this is the joint production of Mr. Mindeleff and his wife adds rather than detracts from its inherent interest. These are but a few of many, for while Mr. Mindeleff reserves this branch of art for his recreation periods his paintings have customarily arrived at a happy conclusion, and he has since the first had to chronicle but few failures.

His personality is shown in his work, but, inasmuch as ethics control habit, it may not be amiss or idle to glance briefly at the processes of inheritance and environment by which the artist was evolved; the indirect though potent means by which the painter's vision obtained its individual focus.

A thorough American to-day, Mr. Mindeleff was born in London, of Russian parents, and has in his veins, without doubt, some of the blood of the daring Cossacks from whom presumably he derives his love of flagrant color—a love which, however, never dominates his judgment. Placed early in the office of an architect he learned drafting, the academic principles of proportion, and technical facility; and later while serving for nine years on the staff of the Bureau of Ethnology (then under the

Victor Mindeleff's Paintings

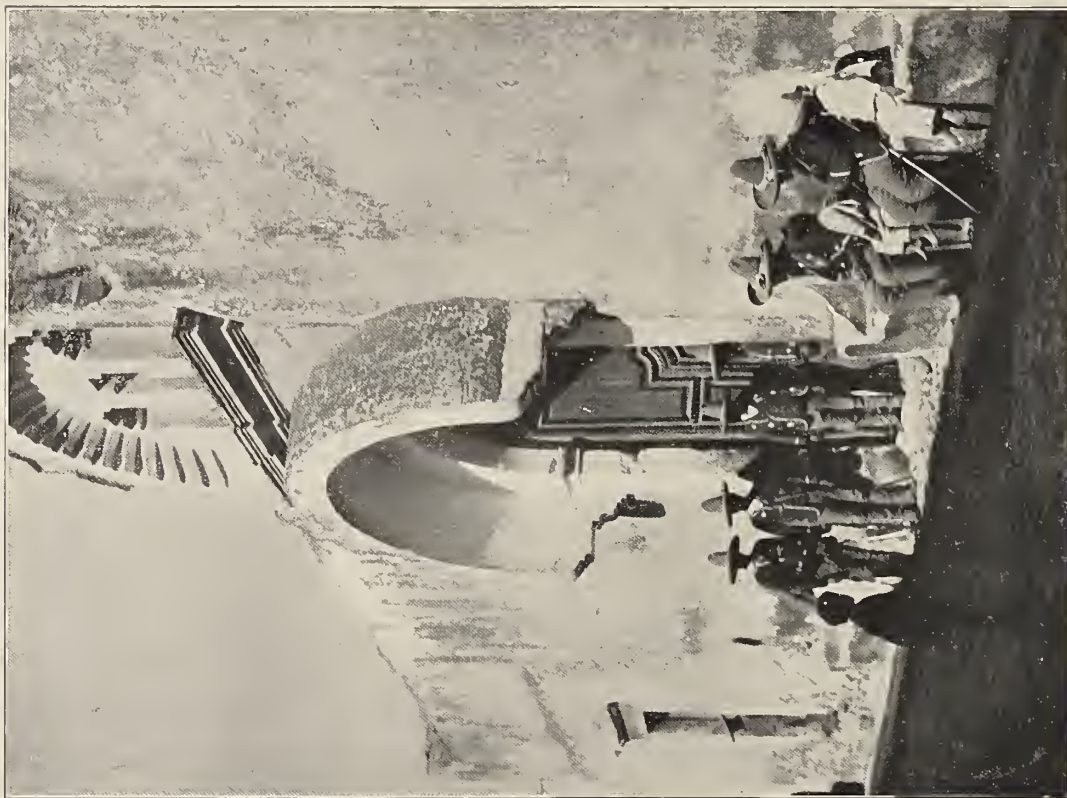
Geological Survey) he became intimately acquainted with primitive architecture, and aboriginal simplicity and symbolism. In the capacity of explorer, modeler, chronicler and illustrator, his horizon widened and art became to him something more than a specialty—something bigger and broader than buildings, or pictures, or decorations, or handicraft. This he demonstrated later in his paintings, his models and his buildings, giving to the last detail of each its proportionate, individual thought. He has stamped the houses he has designed strongly with his own individuality, but he has at the same time adapted them peculiarly well to the purpose for which they were called into existence.

For sometime, in a desultory way, he studied water-color painting with Mr. William H. Holmes, chief of the Bureau of Ethnology, one time president of the Washington Water-Color Club, and a brilliant technician, and to his instruction he acknowledges great and lasting indebtedness.

These are the external factors which have been instrumental in his development and without which his inherent skill would have failed to find adequate expression, but it must be remembered that with him as with other men the entire sum of his training would have been utterly without avail had he not had in himself that sacred fire which in its varying degrees is termed indifferently, individuality—talent—genius.



SWAMP MAGNOLIAS



QUERETARO



LAKE CHAPALA

Mexican Scenes from Photographs by Mr. Wilson Eyre



The Northwest Front

HOUSES WITH A HISTORY

STOWE HOUSE

BY P. H. DITCHFIELD, M.A., F.S.A.

THE glories of Stowe have been sung by many poets, a stately mansion that needs no panegyric. In its quiet old age it is, perhaps, more pleasing to the senses, than ever it was in the palmy days of its grandeur and magnificence. It whispers a sweet message of peace to the heart, war-wearied with the strife of faction and ambition, and attracts us with its plaintive utterances far more than when kings and poets and wits crowded its corridors or sought refreshment in those wonderful gardens of which the world has heard. In the days of its zenith, Stowe must have been one of the grandest mansions in England, and enough remains of its former greatness to enable us to picture to our eyes the princely seat of the Dukes of

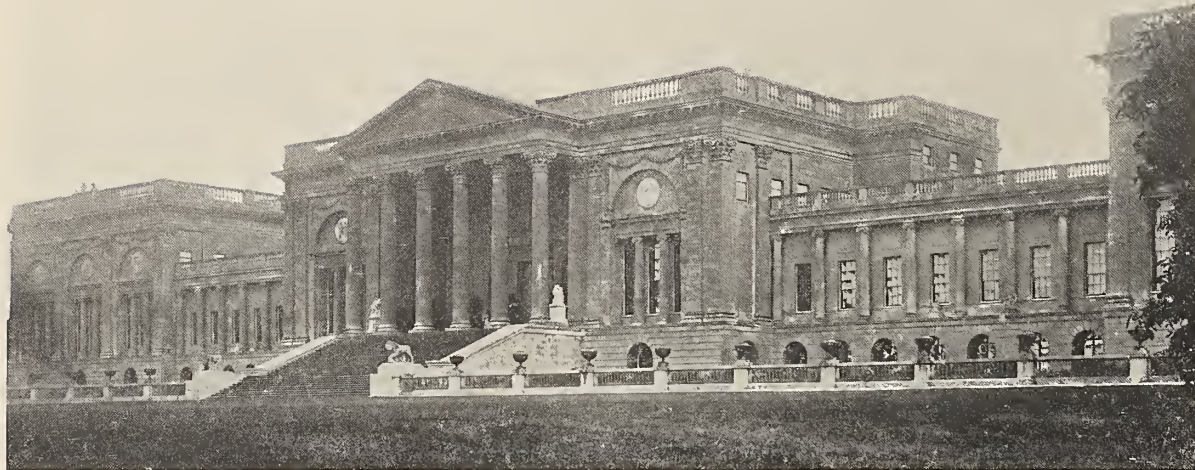
Buckingham as it appeared to Pope, Horace Walpole, Lord Chesterfield, the Prince of Wales and a host of other illustrious guests of the dukes of former times. Now the dukedom is extinct.

Stowe has been robbed of most of its choicest treasures by the relentless hammer of the auctioneer, owing to the ruin of the second duke in 1848. It is sad to reflect that all that the prodigal expenditure of immense wealth had collected, all that had descended from numerous lines of ancestry renowned for taste and opportunities of acquiring beautiful and priceless objects of art and *vertu*, all the priceless heirlooms of an illustrious family were scattered over the world to be sold in shops, to glitter in the public rooms of hotels, or to decorate the



A STATEROOM

House and Garden



PRINCIPAL FAÇADE

mansions of the *nouveaux riches*. It is very sad, but happily, although this is not known to the world, many of the treasures were saved, others have been repurchased and restored to their old places, and the house, now the residence of Lady Kinloss, the widowed daughter of the last duke, is by no means destitute of beautiful works of art, the salvage from the wreck of Stowe's former magnificence.

The early history of Stowe need not detain us long. From the Domesday Survey we gather that the manor was held by a Saxon gentleman named Turgis, and that William the Conqueror gave it to his half-brother Odo, the warlike bishop of Bayeux in Normandy. The bishop had so many manors bestowed upon him by the Conqueror, that he could not live in them all. So he let the estate to Robert D'oiley and Roger Ivory for 605 years. But bad times fell upon the battle-loving bishop. William the Conqueror found that he was conspiring against him; hence, the bishop was dispossessed of his rich manors, and D'oiley, a faithful follower of the king, a prudent man, too, who married the heiress of the Saxon lord of the old town and castle of Wallingford, and gained vast possessions, added Stowe to his extensive property. Whether he was overcome with remorse on account of some lawless oppression of the English, history sayeth not; at any

rate he bestowed his estates at Stowe on the monks of St. Friedswide at Oxford, whose minster is now the Cathedral Church of the Oxford Diocese.

The property remained in the peaceful possession of the monks until Henry VIII. That rapacious monarch, wishing to atone some-

what for his spoliation of their monasteries, created five new Sees, and amongst these the Diocese of Oxford. His son, Edward VI., bestowed upon it for the endowment of the bishopric the estate of Stowe, of which the good canons of St. Friedswide had been deprived. Queen Elizabeth, during the



THE CHAPEL

Stowe House

vacancy of the See, alienated the best of the estates from the bishopric to which they had been assigned by the Letters Patent of King Edward VI., amongst them the manor of Stowe. The estate was purchased from the Queen by Peter Temple, Esqre., who came of a distinguished family and could trace his descent to Saxon times and claim Leofric, Earl

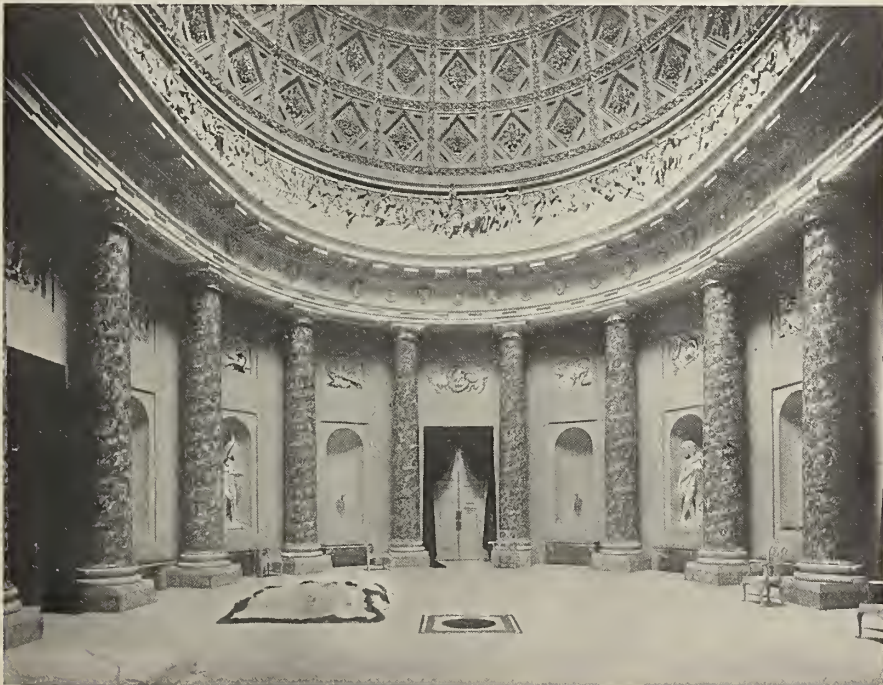
of Leicester, as an ancestor. He erected a manor house in the Elizabethan style, and enclosed 200 acres for a deer park. His son, Thomas, was knighted by King James I., and created a baronet, whose widow lived to a great age and saw four generations and seven hundred of her descendants.



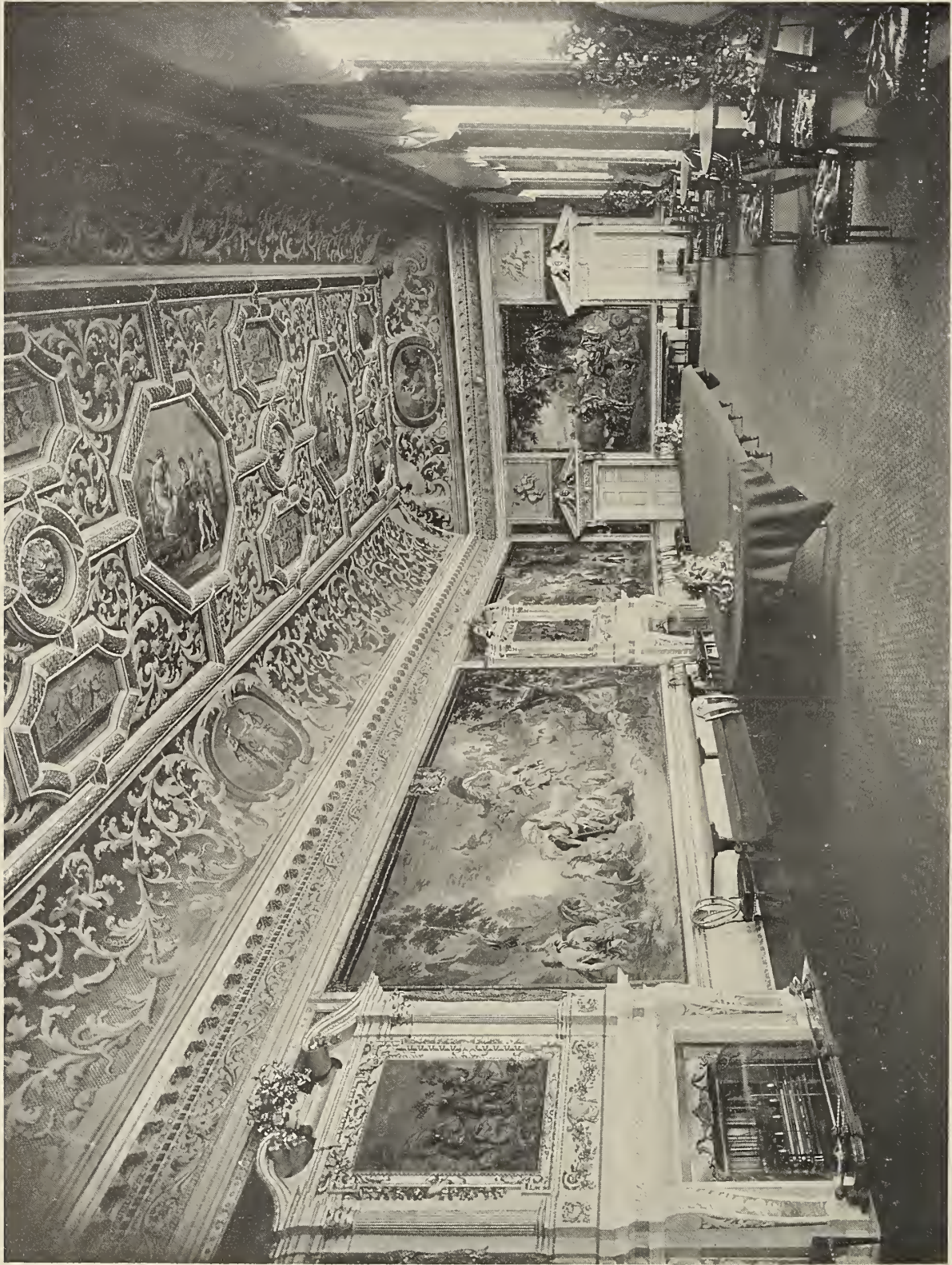
THE "OXFORD" BRIDGE

Sir Peter followed his father and fought in the Civil War for the royal cause. His son, Sir Richard, earned fame by rebuilding Stowe House, and died in 1697. The front of the house was rebuilt by his son, also named Sir Richard, who added the two wings. This Sir Richard was a great soldier and fought with the Duke of Marlborough in the Low Countries and was present at the sieges of Venloo and Rutemonde. Military honours clustered thick upon him. Moreover, he was a favorite at the Court of Queen Anne and was raised to the dignity of baron and then Viscount Cobham. He kept a gallant court himself at Stowe, and gathered together the wits, poets and great folks of the day, who roamed the extensive gardens which he had created, and revelled in his lavish hospitality.

We shall presently stroll through these same gardens, "a melancholy relic of eighteenth century taste and magnificence," filled with its pseudo-classical erections. Of course, Horace Walpole visited this shrine of fashion, and, of course, he wrote amusingly about it. Writing to Conway in 1770, he says, "Twice a day



THE SALOON



THE DINING-ROOM

Stowe House

we made a pilgrimage to every heathen temple in that province that they call a garden." In the same year he visited Stowe in the company of the Princess Amelia, the daughter of George II., and gives a very amusing description of his sojourn there when writing to his friend, George Montagu. It is, I regret, too long to be quoted here. Thus does Pope describe

the Stowe gardens as they were in his day:

"To build, to plant, whatever you intend,
To rear the column, or the arch to bend;
To swell the terrace, or to sink the grot,
In all, let Nature never be forgot;
But treat the goddess like a modest fair,
Nor overdress, nor leave her wholly bare;
* * * * *
Still follow sense, of every art the soul;
Parts answering parts shall slide into a whole.
Spontaneous beauties all around advance
Start e'en from difficulty, strike from chance;
Nature shall join you; Time will make it grow
A work to wonder at—perhaps a STOWE!
Without it, proud Versailles! thy glory falls,
And Nero's terraces desert their walls:
The vast parterres a thousand hands shall make,
Lo! Cobham comes, and floats them with a lake."

Nor was Pope the only songster who sang the praises of the gardens of Stowe. Thomson, meditating his "Seasons," often came thither to visit the kindly Mæcnas of the eighteenth century, and doubtless after his delightful custom, wandered round the garden in his dressing-gown, and bit off the sunny side of his host's peaches. To make amends for such heinous crimes he, doubtless, wrote the lines:

"O lead me to the wide extended walks,
The fair majestic paradise of Stowe!
Not Persian Cyrus on Ionia's shore
E'er saw such sylvan scene; such various art
By genius fired, such ardent genius tamed
By cool, judicious art; that, in the strife,
All beauteous Nature fears to be outdone."



THE "PALLADIAN" BRIDGE

The property and titles of Lord Cobham, who had no male heir, passed to his sister, Hester Temple, who was the wife of Richard Grenville, of Wootton. Her son Richard, created the first Earl Temple, was a distinguished statesman, being Lord of the Admiralty in 1756, and Lord Privy Seal in the following year. He did much to improve the house. He died at Stowe in 1779, and was succeeded by his nephew, George Grenville Nugent Temple, Earl, another statesman, created Marquis of Buckingham in 1784. Under his direction, many of the stately chambers of Stowe were designed and completed. He was the brother of Lord Grenville, of Dropmore, who played a considerable part in the political history of the period. The owner of Stowe was restless and ambitious, and when writing to his brother would often break off in the middle of a political letter telling him that he was forwarding to him many thousands of young trees for his Dropmore estate. His son Richard, who married the daughter of the last Duke of Chandos, a lady of royal descent, was created Duke of Buckingham and Chandos. The second Duke succeeded in 1839 to a magnificent property and a great name. He lived as a grand seigneur, entertaining in a most lavish style. Queen Victoria paid a memorable visit to Stowe in 1845, and was entertained most sumptuously. The Duke was a great collector and amassed a magnificent store of treasures of art and *vertu*. Stowe became

House and Garden



THE SMALL DRAWING-ROOM

a vast treasure-house of priceless objects of artistic merit. But the Duke was ruined by his reckless extravagance. Soon followed the famous sale of all these treasures. Christie & Manson were the auctioneers. Much happily was saved and repurchased by the family; many treasures never left the house, and when the improvident Duke died in 1861, his son, the last Duke of Buckingham and Chandos, bravely faced all difficulties, bought back many of the family heirlooms, and endeavored to revive the glories of Stowe. Having no son, the dukedom died with him, and his widowed daughter, the Baroness Kinloss, now owns and resides at the famous mansion.

Nigh the ancient county town of Buckingham stands Stowe, redolent with the memories of its former greatness. You walk or drive along a long straight avenue of somewhat meagre trees, which leads you to a Corinthian arch, sixty feet high, designed by Thomas Pitt, Lord Camelford. The southeast front of the house now appears in sight, a grand façade, nearly a thousand feet in length, consisting of a central portion faced with a portico and flanked by two wings. Forty stone steps lead up to the portico, and on each side stand two lions guarding the entrance, which are a reproduction

of those to be seen at the Villa Medici in Rome. As I have said, this front was the work of Viscount Cobham. Its style is Italian throughout, founded on the models of Palladio's work, a style that dethroned the old English traditions of domestic architecture, and substituted for its pleasing features a foreign grandiose design unsuited to our English ideas of comfort and convenience, and harmonizing little

with our English landscape. Porticoes, colonnades and other majestic features characterise the palaces of Anglo-Palladianism, and these are abundantly exemplified in the mansion of Stowe. The portico or loggia is formed of six Corinthian columns and two pilasters. There are some colossal female figures in the loggia from the Braschi collection. Two groups remain out of several designed by Scheemakers, Delorme and others which once adorned the spaces between the columns.

As we view this noble front, we cannot discover any traces of an upper storey. The large windows of the ground floor gaze at us. Above them there is a lofty parapet, and behind this are concealed rows of chambers arranged in blocks perpendicular to the side of the house. If you have the good fortune to stay at Stowe, you will not, therefore, be able to gaze at the beauties of the historic gardens from your bedroom window. This rather bears out the truth of Lord Chesterfield's witticism on an Anglo-Palladian house; he advised the owner, who found it so inconvenient within, in spite of its exterior beauty, to hire a lodging over the way and spend his days in looking at his house. The usual entrance to the house is at the northwest front, which somewhat resembles

Stowe House

the other and has a portico with wings. On entering, you find yourself in a vestibule with a ceiling painted by Kent, architect and artist, the friend of Lord Burlington, the designer of Holkham. This ceiling is an allegorical design representing Victory or Mars presenting a sword to Lord Cobham, the companion of Marlborough in his victorious campaign. Some people see in the face of Mars the likeness of "Dutch William." A



THE LIBRARY

copy of the Venus de Medici, two panels of ancient sculpture, and a large Herculanean vase adorn this hall. We pass thence into the large saloon (60 feet by 43 feet), a great feature of a Palladian house. It has a vast dome and a frieze with some remarkable figures engaged in celebrating a Roman triumph, by Valdre. The student of Roman antiquities will see in these figures a strong similarity to those with which he is familiar in "The Eternal City." The staterooms all open from this central saloon. On the right is the state drawing-room, which contains several pictures saved from the wreck. There is a Correggio, showing the figures of Mars, Venus and Cupid, and over the mantelpiece is a bas-relief representing a sacrifice to Bacchus. We next find ourselves in the noble dining-room hung with tapestry, and over the mantelpiece are some carvings of Grinling Gibbons. Another small dining-room is the next room which we enter, also adorned with tapestry representing battle scenes of the Queen Anne period. A portrait of one of the Temples painted by Van Dyck is over the mantelpiece. From this room opens the Duchess's drawing-room; with which our tour of the western wing of the house

terminates. There are two china closets at the entrance end of the apartment.

On the eastern side are the music room, grand library, which once contained a vast store of 20,000 books, and three other rooms, one of which is known as the Queen's bedroom, where Queen Victoria slept during her memorable visit in 1844. In the basement are extensive corridors which are used as armouries. The old muskets used in the Peninsular War by the regiment commanded by the Marquis of Buckingham are stored here. The MS. room was modelled from Henry VII.'s Chapel in Westminster Abbey, by Sir John Sloane, and in the centre of the vaulted ceiling are the 719 quarterings of the noble families who have owned Stowe. There is still a vast store of valuable papers, but the famous Stowe MSS. are now in the British Museum. The chapel is worthy of a visit. The cedar wainscot was taken from a Spanish prize vessel, and was formerly at Pilkhampton, Cornwall, the seat of Sir Richard Grenville, the hero of Queen Elizabeth's time, the commander of the gallant little "Revenge," sung of by Tennyson. Grinling Gibbons did the carving. Some old regimental colours hang from the walls. The vast kitchen resembles

House and Garden

one of the larger kitchens at Oxford or Cambridge, and it is said that a ton of coal is required to set the huge fire going in the morning.

A memorable scene took place at Stowe. King Louis XVIII., of France, driven from his country by the revolution of 1793, came to reside in the neighbourhood at Hartwell House, Buckinghamshire. The illustrious exile often used to visit Stowe and here he met Louis Philippe, who went on his knees and begged pardon of his royal uncle for having ever worn the tri-coloured cockade. Another illustrious name, connected with the history of France is associated with Stowe. The Comte de Paris came to reside here in 1889, and died in the house six years later.

The gardens occupy four hundred acres. Historic they are, and associated with the names of many worthies in English history, neglected but glorious, appearing like a grove adorned with obelisks, columns, statues, temples, and towers apparently emerging from a luxuriant mass of foliage. They were originally laid out by Viscount Cobham, who employed Bridgman and Kent to carry out his designs. A lake spreads its placid waters on the south side, and on the side remote from the house are two Ionic pavilions designed by Kent. A little lake is hidden within a shady dell, wherein trees and thickets, grass and flowers flourish, and here and there quaint monuments and temples arise amid the verdure, sometimes recalling (as Horace Walpole wrote) "Albano's landscapes to our mind: and oftener to our fancy the idolatrous and luxurious vales of Daphne and Tempe." We can imagine the aged beau "with certain other giddy young creatures of near three-score supping in a grotto in these Elysian fields, refreshed with rivers of dew and gentle showers that dripped from all the trees, and being reminded of the heroic ages when kings and queens were shepherds and shepherdesses, and lived in caves, and were wet to the skin two or three times a day."

We find a monument of Lord Cobham's nephew, Captain Thomas Grenville, who was killed fighting the French under Admiral Lord Anson, in 1747. Yet another temple is that of Concord and Victory,

girt with Ionic columns, erected for the commemoration of the Treaty of Paris in 1763 and the close of the Seven Years' War. Lord Cobham's pillar still survives and an urn keeps in memory the achievements of William Pitt, Earl of Chatham.

Here is the Temple of Friendship. Walpole has enumerated many of the ephemeral friendships it commemorated.



"THE WATERFALL"

It is impossible to exhaust the treasures of Stowe's wondrous gardens. The Bourbon tower records the restoration of the French monarchy in 1814; Kent's monkey tells of the comedies of Congreve; a Moorish Gothic temple which reminded Walpole of the Place of St. Mark's, Venice, and I know not what else lies buried within the shades of the trees. Rysbrach's seven statues of Saxon deities who gave their names to the days of the week used to be there, but perhaps they have vanished. Then there is the Palladian Bridge, after the design of the great Italian, a fine structure similar to that at Wilton.

It was in the gardens at Stowe that "Capability" Brown first worked, whose hand fell heavily on many a fair English garden, which he uprooted and destroyed in his quest for landscape-gardening triumphs. Here his energies were happily confined to the kitchen-garden, and it would have been well if he had never strayed from the cultivation of useful herbs.

We love to linger among the trees of Stowe and picture to ourselves its past glories and to see the ghosts of the great men who trod the Elysian fields and read again Walpole's delightful descriptions of his visit with the Princess Amelia and other exalted people, "whose images crowd upon one's memory and add visionary personages to the charming scenes, that are so enriched with fanes and temples, that the real prospects are little less than visions themselves."



From the South

A WELL-PLANNED COUNTRY HOUSE

THE RESIDENCE OF CHARLES SINNICKSON, ESQ., ROSEMONT, PA.

BY MABEL TUKE PRIESTMAN

OF the many country places on the "main line" within easy access of Philadelphia, Rosemont is perhaps one of the most attractive. The surrounding country is hilly and well wooded, and the roads turn and twist in charming irregularity.

On the brow of a hill, on the Montgomery Pike, Mr. Charles Sinnickson has built his home, which is in the modern English style now so much in favor.

The house, while not large, is planned to give a feeling of roominess, but without loss of space; it is built of grey stone to the second floor level, the walls and gables above being rough-cast. The chimneys are large and solid, presenting a picturesque appearance, standing between the timbered gables. The shingles of the roof are stained a dark grey, and outside woodwork a rich brown, which forms a pleasing contrast with the plaster walls.

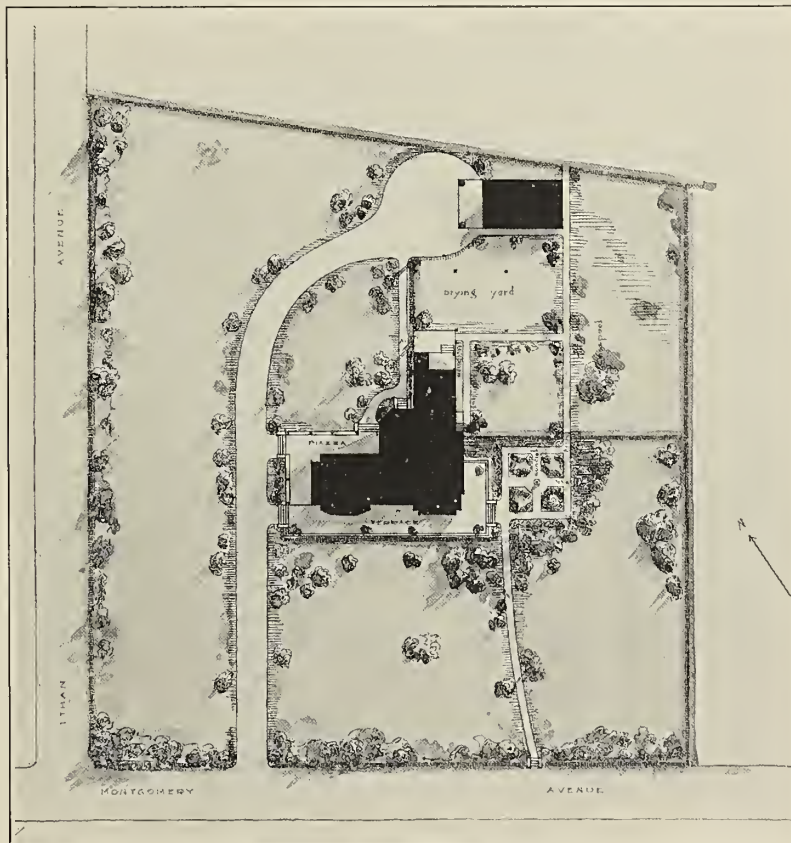
The house being newly built is seen at a disadvantage, as the hedges,

shrubbery and young trees have hardly had time to make a showing. The brick terrace in front of the house is returned on the easterly end. Outside of the dining-room and facing this is a small "Dutch" garden, a simple arrangement of flower beds and gravel walks around a sun-dial as focus, and in which already the old-time favorite flowers, hollyhocks, sweet-williams, foxgloves, irises, nasturtiums

and marigolds show their vivid coloring, while sweet-scented thyme and honeysuckle mingle their fragrance.

On every side of the house, porch life can be enjoyed. The front of the house, which faces the south, has a wide flagged pavement only partly sheltered by the projecting roof.

There are two main entrances, both of which open into the hall from the porches, but at opposite sides of the house; both doors are equally accessible from the front drive; there is also an outside door from the owner's "den"



PLAN OF THE GROUNDS

House and Garden

leading to the stable. The kitchen door opens into a porch which faces the "drying grounds;" this lies between the house and the stable.

How rarely one sees a house that is as pretty viewed from the back as from the front, yet here is one where the treatment of back buildings gives it an added charm, its projecting corner with its balcony above is quite unique, with its wide windows irregularly placed. A thick hedge, already well grown, serves as a screen to hide the approach to the kitchen door.

Bright awnings of yellow and green striped duck, and white swiss sash curtains at the windows, with deep green shades, combine to lend touches of needed color to a house built in tones of greys and browns.

The doors open directly into the hall, and a very pleasant impression is given of hospitality and harmony. The front door opens into a vestibule which opens into the hall, opposite the other outer door. In winter the porch is enclosed and heated so that no cold air enters the house when the doors are opened.

The hall opens on either side into the living-room or library to the west, and the dining-room to the east, presenting a pleasing vista in all directions. Facing the stairway is a brick-paved ingle-nook and fireplace, and window seat alongside of the front door,

or south doorway opening on to the terrace. The entrance door on the north is alongside of the stairway and opens on to the piazza. This is a convenient arrangement, as visitors can enter and leave

the house in their outside wraps without having to cross the hall in view of everyone.

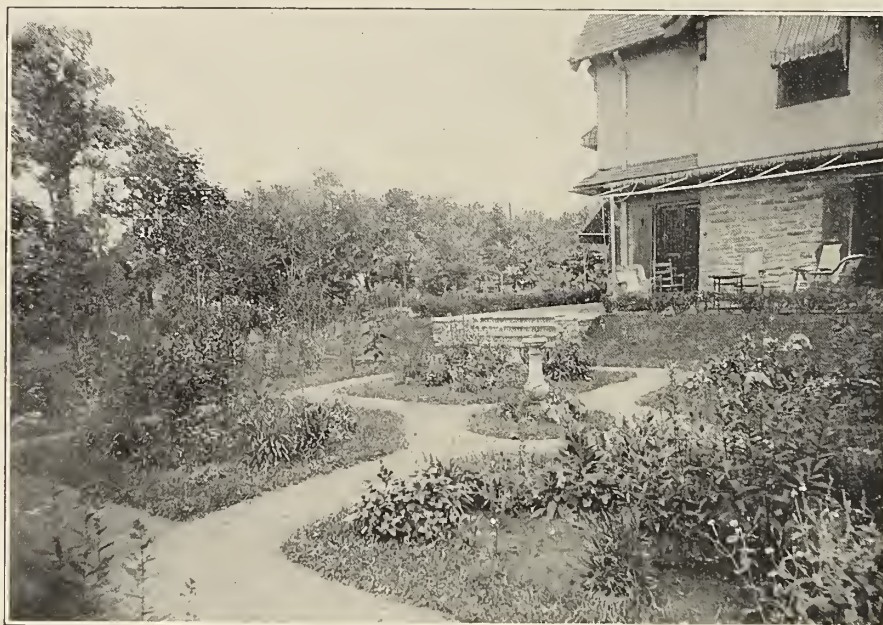
The walls and ceilings are left rough plastered and have been stained a warm cream. The woodwork is chestnut, colored a rich shade of brown; the beams of the ceiling and the open timber work of the upper side walls lend variety to

the solid paneling of the wainscoting. The fireplace is of red brick, the mantel above possessing good strong lines; a few suitable ornaments are in keeping with the surroundings.

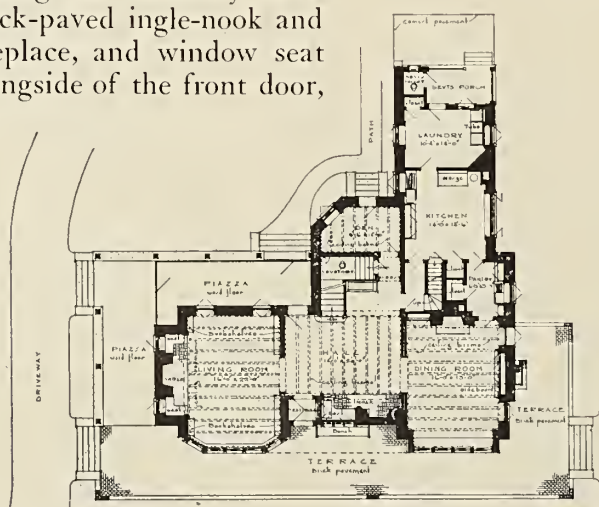
The heating radiator is placed beneath the window seat of the ingle-nook, concealing what is often an eyesore to an otherwise attractive room.

The furniture is mahogany, of good Colonial design. The rug is a Royal Wilton in deep shades of red and blue, the groundwork having that subtle shading mostly seen in antique Oriental rugs, showing how carefully they have been copied from the originals.

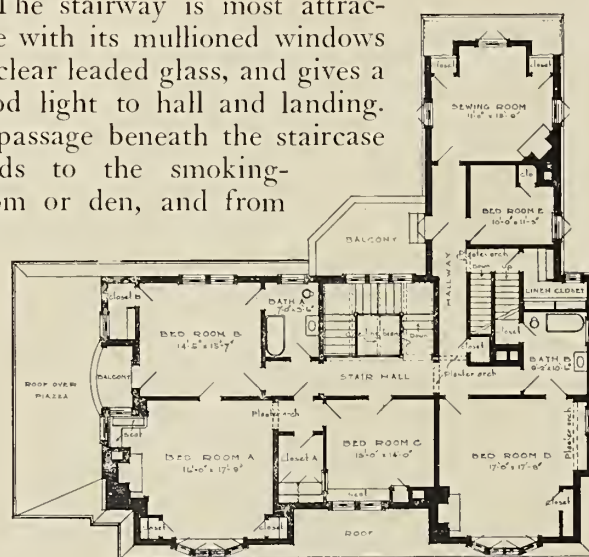
The stairway is most attractive with its mullioned windows in clear leaded glass, and gives a good light to hall and landing. A passage beneath the staircase leads to the smoking-room or den, and from



THE LITTLE DUTCH GARDEN



PLAN OF THE GROUND FLOOR



PLAN OF THE SECOND FLOOR



THE HOUSE FROM THE GARDEN TERRACE



THE ENTRANCE



THE LIVING-ROOM



BEDROOM A

A Well-Planned Country House

this passage a small stairway leads to a basement lavatory. The entrance to this den is convenient, when the owner comes in from a ride, to brush off superfluous mud before going into the sitting-rooms.

The wrought iron hardware throughout the house is especially attractive; the latches on the doors and the electric light fixtures are well designed.

The dining-room is a very successfully treated room; the beams on the ceiling run in an opposite direction to those of the hall. The cypress woodwork is stained Flemish oak finish. The wainscoting is seven feet high, divided in large panels filled with golden brown leather paper, and are capped with a plate shelf leaving a narrow frieze hung with gold and reddish burlap.

The sideboard is built-in, and is made in a very decorative design with little closets above of leaded glass. The fireplace is flanked on one side by the pantry door, and on the opposite side by a built-in glass closet. The south bay window looks out upon the terrace, while on either side of the sideboard are French casements also opening upon the terrace, where it returns on the east side of the house facing the formal garden. A feature of the house is the practical way in which furniture is built in wherever possible; a most economical plan and one that insures furniture being of suitable design to its surroundings, besides making use of all available space. The rest of the furniture in the dining-room matches the sideboard and the glass closets, the chairs being covered with shaded brown leather. The rug, also a reproduction, is in tones of red in a Bokhara design.

On the opposite side of the hall is the living-room, occupying the same relative position to the hall as the dining-room. This room has a brick-paved ingle-nook facing the doorway to the hall; on either side of the fireplace are low window seats, with high paneled backs, over which are casement windows with leaded glass. Around the room are bookcases with leaded glass doors, corresponding to



THE DINING-ROOM



THE HALL



THE STAIRCASE

House and Garden

the wainscoting, which appears where cases are not practical. The finish of the woodwork and furniture is chestnut, stained a quiet dull brown, with ceiling beams to match. Across the south end of the room, looking upon the terrace as in the dining-room, is the wide bay window with leaded glass, and on the northern end French casement windows, also with leaded glass, open on to the piazza. The furniture is in Mission style, the chairs being covered in green leather, the cushions in the window seat having a covering of more flexible material. Above the wainscoting the walls are covered with bright green silk felt paper, which makes a good background for some well-framed pictures. Tiffany lamps, brass candlesticks, rare old vases and handsome writing table appointments in silver, give the finishing touches to this delightful room. A beautiful Oriental rug introduces several shades of old reds and greens appropriate to the rest of the furnishings.

The upstairs rooms are as large and commodious as those below; that above the living-room is in blue,

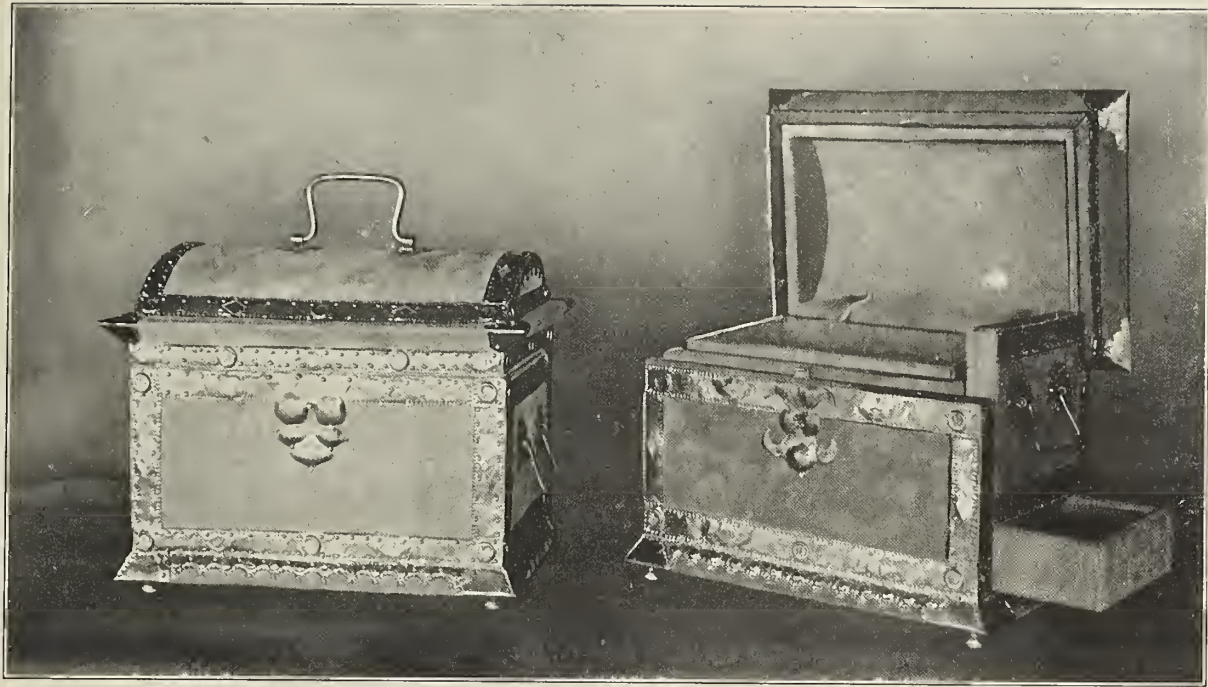
with Colonial mahogany furniture and white paint. A roomy sofa with dimity covering is placed in the bay window. A fireplace with a high backed window seat is on the west wall of the house. A heavy moulding, level with the top of the doors, is run around all the bedrooms, giving them a wonderfully restful appearance. Outside the blue bedroom is a closet with drawers, shelves and hanging room, lighted by electricity and withal so roomy it could serve as a dressing-room if desired.

The other rooms are painted white and have particularly pretty papers on the walls. Four large sleeping-rooms, a sewing-room, two bath-rooms and a wonderfully capacious linen-room add to the comfort and completeness of this home, where we feel all has been carefully planned with a view to making use of space to the best advantage, and much attention has been given to all the little details which go to make a home livable.

The architect of this house was Mr. Horace Wells Sellers, of Philadelphia.



ANOTHER VIEW OF THE DINING-ROOM



Jewel casket, buff suede, brass trimmings inset with abalone, cut like stones.
Opened by secret springs and showing secret drawer

A CALIFORNIA CRAFTSMAN AND HIS WORK

BY KATHERINE LOUISE SMITH

RISO RIVO is the mellifluous name given to his country place by Charles Frederick Eaton, the California artist-artisan, whose exquisite work has attracted the attention of art lovers ever since it crossed the mountains. After nearly twenty years in Europe, Mr. Eaton has utilized the ideas brought back with him, and as a result he has one of the most beautiful and artistic places near Santa Barbara.

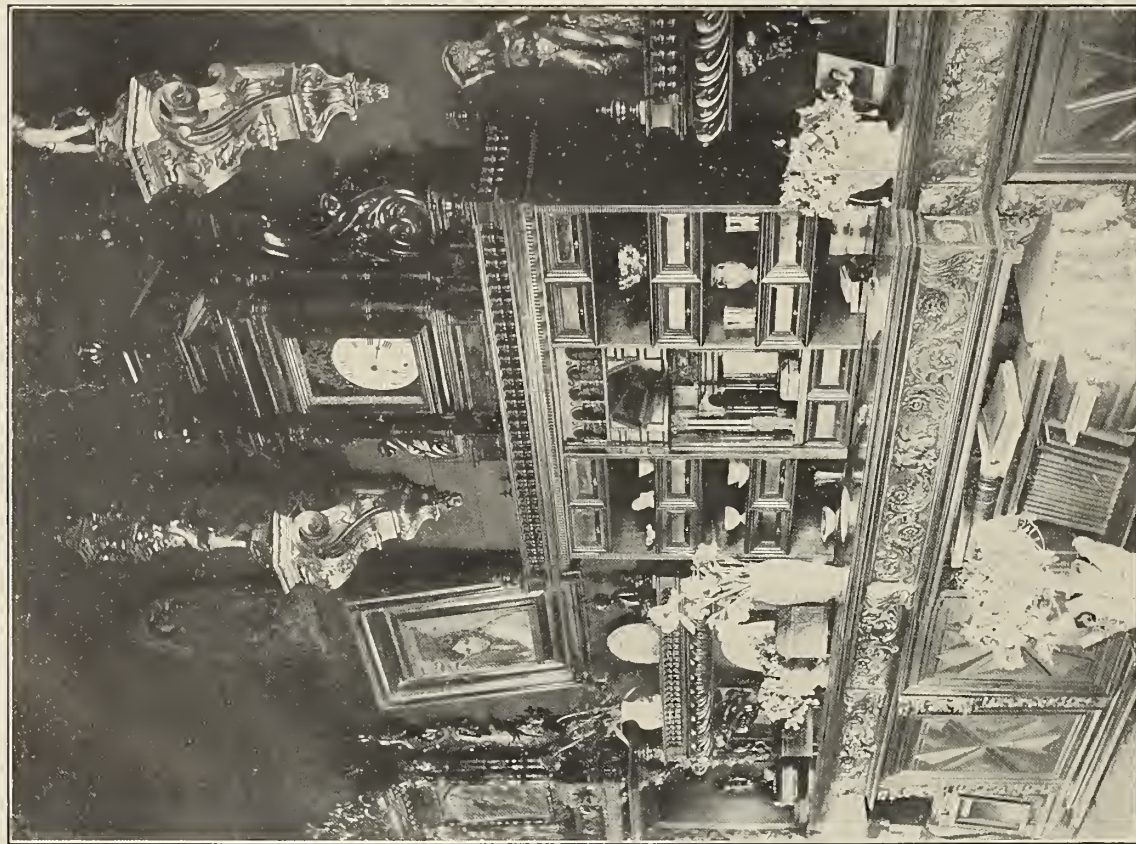
The house, which has a fine exterior of stone and weathered oak, looks out on a stretch of landscape which, sloping gently to the south, shows the blue waters of the Pacific in one direction and the mountains in the other. The

grounds are an exquisite example of the adaptability of plant life to climate and cultivation. Amid a hundred live oaks is a tropical garden with palms, trees and flowers. These have been brought from all parts of the world, and palms and other exotics

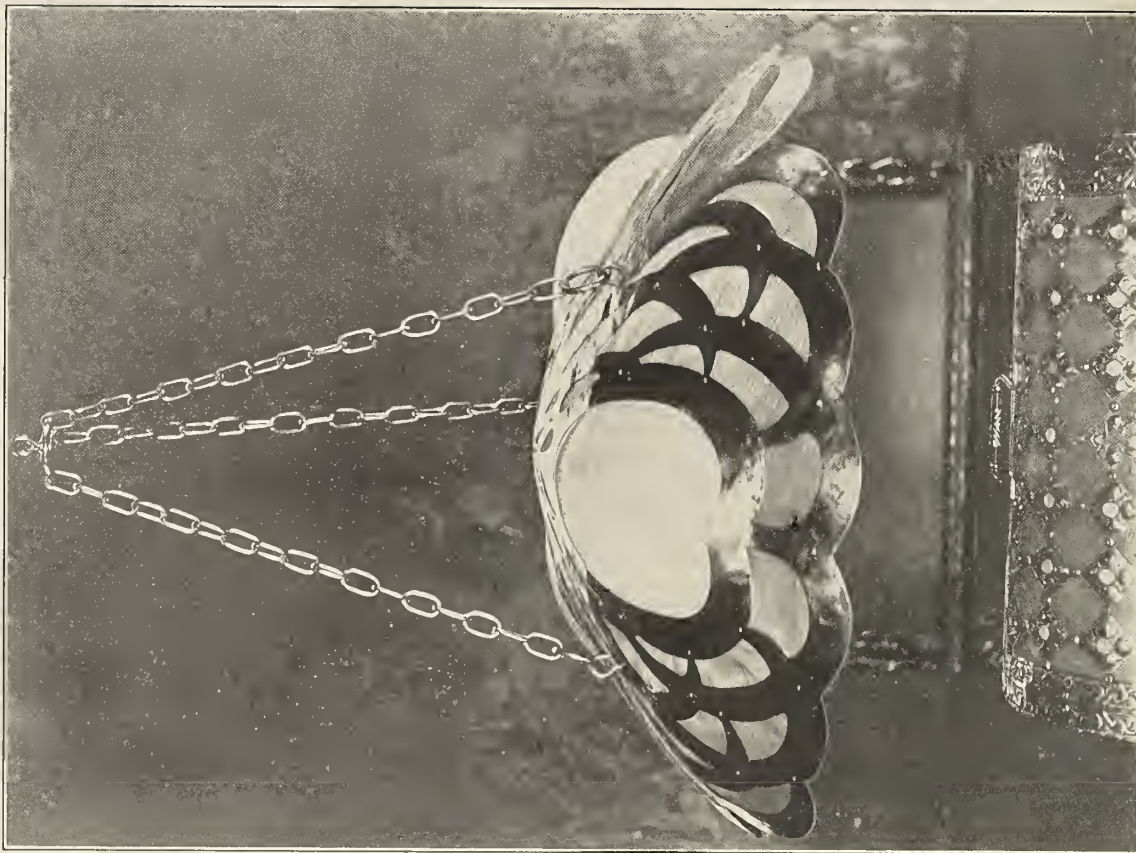
flourish side by side with the bamboo of Japan. From the oaks hang waving strands of the English ivy and the ground is completely covered with it, making a soft, green bed which enchants the beholder. A charming feature is the winding brook bordered by tiny ferns whose leaves are reflected in the water. This flows into a miniature lake in the Italian style, surrounded with an



THE TROPICAL GARDEN AT RISO RIVO



A LIBRARY CASE



HANGING LAMP OF BRASS WITH PINK MELON-SHELLS

Designed by Mr. Eaton and executed under his direction

A California Craftsman and His Work

ivy-grown stone wall. On the smooth expanse of water are the lotus and water lily of the Nile, blossoming freely in their season and almost touching the quaint summer-house which floats or remains stationary, as may be desired. This is large enough for a dozen persons, and affords an excellent place for afternoon teas or siestas, while the soft air stirs the long grasses and tiny fish dart among the Zanzibar lilies and the rare aquatic treasures that suggest Egypt and the Nile.

In the midst of this picturesque setting stands the artistic house with low spreading roof, which with its contents give expression to the owner's desire for substantial handi-



CARRIAGE-HOUSE WITH ARTS AND CRAFTS WORKSHOP ABOVE



A GLIMPSE OF THE SHOPS

work of merit and distinctive artistic design. To describe the contents would require the technical knowledge of a connoisseur, for their selection is not the choice of an ordinary man but of one who is cultured from years of travel and work in the Bennati studios of Paris, and who has made a study of wood carving and artistic craftsmanship and landscape architecture. Even the metal work on locks and doors deserves close attention, while a description of the superb arras tapestries of the fifteenth century and of the embroideries would delight the experienced traveler. Though this artist has planned many other houses, his own possesses the individuality that gives the finishing touch to art craftsmanship.

It is not on his home and grounds, however picturesque they may be, that Mr. Eaton's fame rests, but on the exquisite handicraft that is executed in his unique arts and crafts studio in the upper storey of his picturesque carriage-house. This interesting shop is open on all sides, free to any inspiration that may be gathered from Nature, and from it have gone forth such exquisite productions that they have attracted the attention of the art loving public at all the recent exhibitions. Since pieces of his craftsmanship were first exhibited at the Bookbinders' Guild of San Francisco the fame of this artist's work has grown and is a striking example of the appreciation accorded work which, though not cheap in a commercial sense, is not subject to the claims of a fickle fashion.

From the workshop come designs that are simple or elaborate as the case may be, but finished with a touch that is always sympathetic, whether the object dazzles with its brilliancy or appeals to one like the soft tones of a nocturne. Here are made beautiful books, decorated on parchment, guests' books and wedding books with boldly illumined cover designs consisting of figures, initials and borders. Some of these are of white vellum, wonderfully delicate and chaste in appearance. Many are bound in brass and



A FLOATING SUMMER-HOUSE ON THE LILY POND



TEA OR CHAFING-DISH SCREEN AND PICTURE FRAMES

The screen made of redwood, burl and Philippine shells, with hinges and ornaments of copper. Iron picture frame, design of trees tooled. Brass picture frame with California stones



INTERIOR OF STUDIO

A California Craftsman and His Work

all bear such unique titles as "Rose Bower," "Pomegranate," "Guest Book, Ye Ornament;" "Auld Lang Syne;" "Wedding Book;" "Orange Flower." One of these last books contains a colored sketch of the marriage service of Aucassin and Nicolette, with attendants in doublet and hose. Another bears on parchment the words of the marriage ceremony illumined with border of a choice design, the whole making a brilliant picture. In these we see the worker's versatility combined with painstaking and fine craftsmanship.

The array of leather work is fairly dazzling. All sizes of chests and jewel caskets are sent out from this marvelous workshop. They cost, it is true, a tidy sum, but the happy possessor has something that cannot



MR. EATON'S HOUSE AT RISO RIVO

the motif is a peacock feather, at other times it is simply an arrangement of shells that suggest the scale of a fish or a lotus blossom; but every shape is wrought with the cunning of a mediæval craftsman. The dexterous handling of Philippine shells and California stones alone would make the work distinctive and different from that of any other artist-artisan.

These are things not met with in shops. They are examples of handicraft that must be sought to be obtained and are only purchased by those who are educated to a proper appreciation. Visitors to California see the work in the studio; others who are less favored become conversant with it through the various Arts and Crafts exhibitions, or they meet isolated pieces in the homes of the cultivated. Mr. Eaton's recognition has come slowly but surely.



MR. EATON AT WORK

be duplicated. Silver chests, with innumerable tiny drawers, come in leather covers that are bound in brass and inset with semi-precious stones. The adaptability of the drawers to contain the largest space is wonderful. Coffers, caskets and metal book covers are of such workmanship that once seen one can always recognize them as belonging to this California craftsman. An odd conceit is a low metal screen, studded with polished stones, that is made to stand in front of a chafing-dish, and so protect it from drafts of air.

If Mr. Eaton excels in one article of craftsmanship it is his abalone shells of the Pacific, cut and polished to fit into artistic shaped frames. The shimmering grey of the shell blends almost imperceptibly with the iron frame to make a harmonious whole. Often



ANOTHER VIEW OF THE STUDIO, SHOWING THE TAPESTRY



THE LION VANE OF THE PALAZZO DEL PODESTA, FLORENCE

ITALIAN DECORATIVE IRON WORK

BY THE MARCHESE RIDOLFO PERUZZI MEDICI

THE subject that I am about to treat is voluminous and also in great part virgin—voluminous, because the Italian people have ever loved the beautiful; virgin, because none have as yet devoted due attention to this branch of decorative art, which is so beautiful and so full of interest. Iron, as a primary material, was familiar from very early times. It was the cause, and at the same time the immediate effect, of many civilizations, from the remote to the modern. Employed at first as an aid to art, it became in the end an art in itself. The centre of human dominion, gradually shifting from the East to the West, diffused throughout the world the use of this metal; a use limited it is true, but which served to prepare the ground for the development it was to undergo in the Middle Ages. For it was the Middle Ages that were destined to see the expansion of the blacksmith's art. In earliest years iron was chiefly employed as a means of fortification, when, in the dissolution of the Roman Empire, the irruption of the barbarians, and the migrations of the peoples, dwelling houses became very fortresses. In the second half of this epoch, however, owing to the unifying character induced by weariness of such unstable existences, by the new religion that pervaded each and all, and by the gradual softening of the barbarian conquerors as they came in closer contact with the vanquished, iron served no longer solely for defence but also as a decoration. Domestic utensils and weapons grew lighter and more elegant. Each piece, even though destined to the smallest and humblest services, was individualized by a profile, an incision, a shaping more or less marked. Such a slow evolution, at first almost imperceptible, seems to have taken birth in England where the very ancient remains testifying to such an

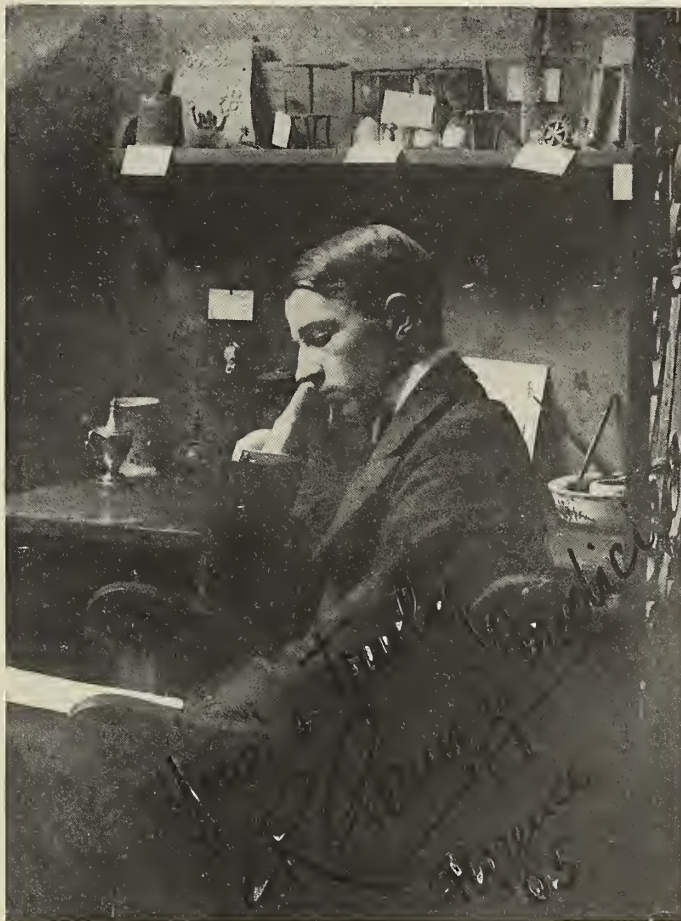
artistic movement have been found. Gardner reproduces several and among them the iron door of Stillington Church in Yorkshire that shows some decorative taste.

The Crusades and the continual emigration for politico-religious reasons of the English and Scotch carried the taste for decorating edifices with iron work to the eastward in Europe. Hence, this fashion spread over all France, Spain and a part of Germany, and thus there arose very rapidly a new school of decorative blacksmiths, worthy to be

enumerated among the great artists of the epoch. But if the West of Europe hailed this new art and gave it a special development, this was not the case with Italy. Now what was the reason for this indifference? Must it be sought in the absolute lack of any popular tradition in this respect or to the politico-financial conditions prevailing in the *bel paese*? It was, however, perhaps quite natural, seeing that the Romans rarely worked in iron and that this art, new to Italy, took spontaneous birth there and could not at once feel the effect of foreign influences. In the course of time, however, new ideas, new artistic conceptions filtered into the peninsula. One set came from the North, passing through the kingdom of Savoy, which, politically speak-

ing, is half in Italy and half in France, and through Lombardy, which is so purely German on its northern confines. The other influences came from the East and first touched Venice, the great commercial emporium of those times. These elements, fusing gradually with the traditional native art, necessarily produced a very beautiful artistic hybrid.

The brief space at my disposal does not allow me to make a detailed examination of all Italy can boast



PORTRAIT OF THE AUTHOR



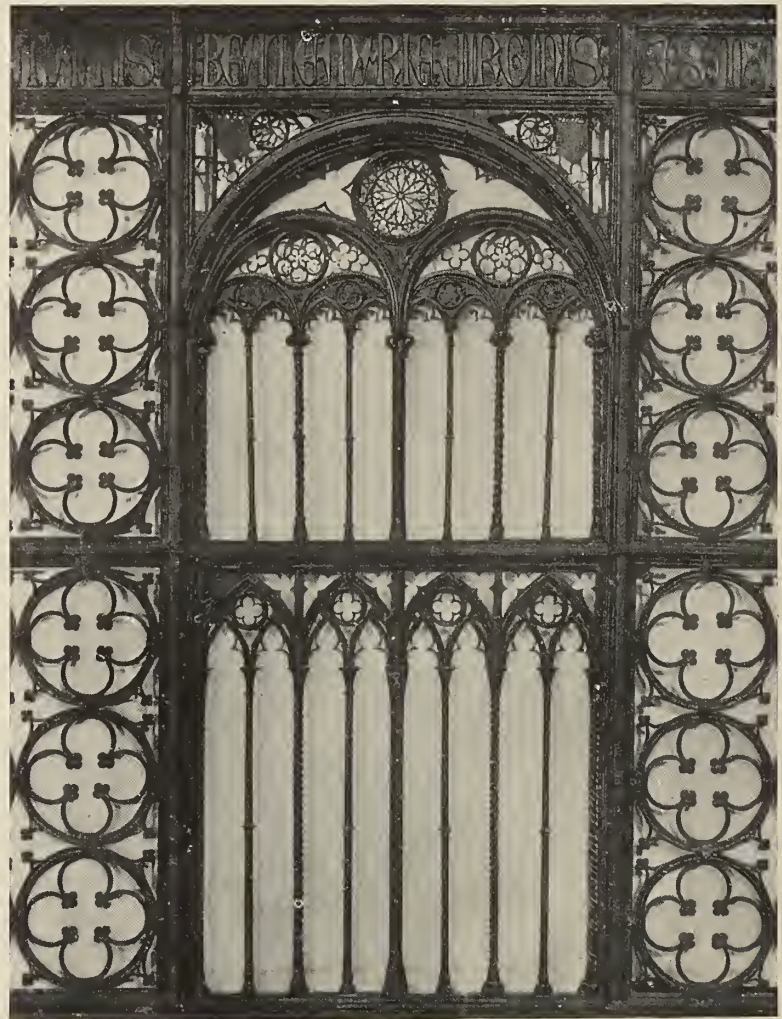
STANDARD BEARER, PALAZZO MANCINI.
CORTONA, XVI CENTURY

of what is noteworthy in iron work art. I will, therefore, limit myself to dealing with some of the chief products of one region. The smith craft had an extraordinary extension in Piedmont, Venetia and Tuscany, but, while the two first named were largely subjected to foreign influences, Tuscany, which had arisen from the ruins of Etruria, and was hence rich in noble traditions, was barely touched by the Northern and Oriental artistic currents. Hence, its productions are the most Italian as regards taste and art and thus offer a field of observation full of interest and beauty.

At the dawn of the fourteenth century, the Florentine Republic, where flourished the greatest artists of the age, as a special concession to its most influential citizens, as a privilege, a token of gratitude for services rendered, accorded permission to employ a new species of architectural decoration. This consisted of torch and light holders and other similar objects, which quickly passed from mere crude outlines and simple shapes

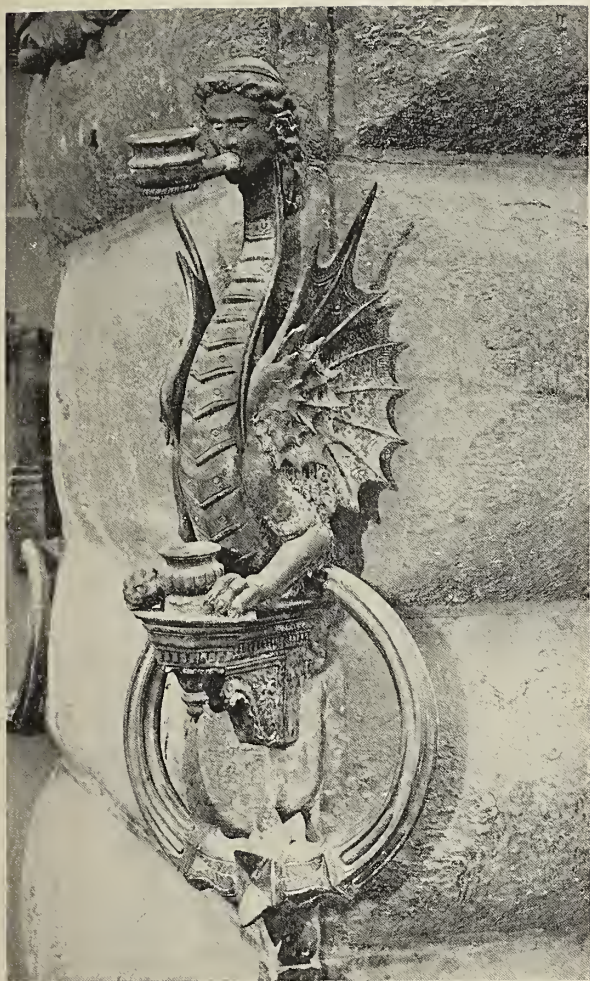
to an exuberance of ornamentation, for they were not deemed unworthy of execution by the greatest craftsmen of the age. The torch holders were employed on great occasions and must certainly have co-operated in producing those splendid light effects of which the old chroniclers speak with such enthusiasm. In fact, let us imagine one of the narrow and dark streets of Florence on a soft summer evening of 1300. On one side we see the imposing front of a vast sombre palace, partly illumined by a long line of flaring torches held in place by large iron sockets, while below, over the cobblestone pavement, passes a motley crowd. Here paces a patrician clad in scarlet *lucco*, a curly-pated page, the red lily on a white field embroidered on his doublet, a fine dame in splendid raiment, a dainty, coquettish maiden, a warrior in shining armor and a monk garbed in severe ascetic tunic. It is a feast of line and color and light framed in a stern background.

These torch holders, thus closely associated with the jovial character of the Florentines, assumed various forms according to the smiths that arose and vanished during several generations. At first, they were but simple iron cylinders held in an oblique position by a clamp fixed into the wall. Then, after ornamenting the external face of the cylinder with an X design, simple but most effective, the



SCREEN IN S. CROCE, FLORENCE. 1371

Italian Decorative Iron Work



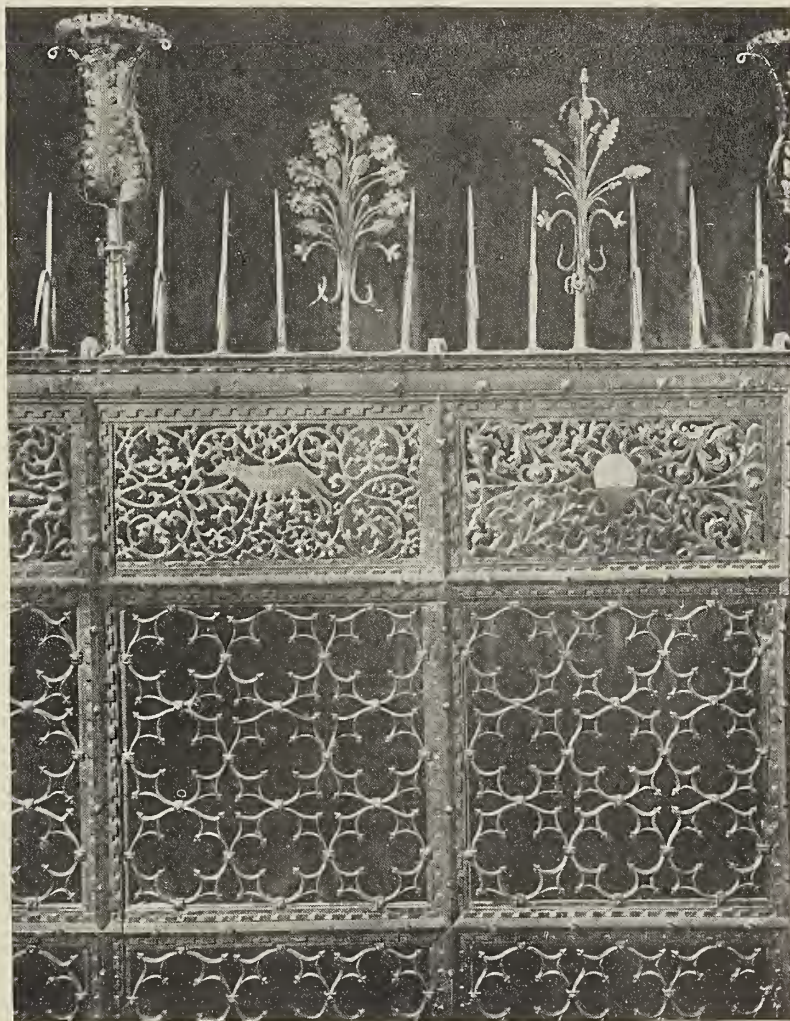
STANDARD BEARER, PALAZZO STROZZI,
FLORENCE

bar was lowered and fashioned elbow-wise in order to attach to it large rings or anchors which served as hitching posts for horses. Later, with the decline of the sixteenth century, and the corruption of artistic taste, these horizontal rings were edged by two scrolls or rounded rims.

The banner holders served to sustain the standards of the Republic, the flags of the guilds, and the ensigns of the patricians, on the occasion of public rejoicings. At first, these resembled the torch holders, but in the course of time they took on the most varied shapes, sometimes representing cornices or capitals, sometimes foliage or chimerae. The banner holders of the Strozzi Palace are world famed. We have it on the authority of Vasari that they were the handicraft of Niccolò Caparra, a Florentine smith who worked them with great diligence about the year of our Lord 1495. They represent winged, scaly-necked dragons who, crouching upon the marvelously forged capitals, ornamented with the three crescent moons of Casa Strozzi, grasp between their potent claws an incised socket,

corresponding to the ring which the chimera supports with its mouth, while a large hoop incised with the graver and adorned with gems hangs beneath, framing the base of this wondrous work of art. Let us leave aside for the moment the exquisite taste, the movement, the classic purity of line, and consider rather the technical difficulties involved and the marvelous distinction of execution. If we remember that every little relief has been obtained by the hammer and the burin and that we have to deal with a primary material, much harder than granite, we are forced to ask ourselves, Is this really the work of one man or of another Hercules?

Yet another decoration in wrought iron, the greatest and most rare distinction which the *Comune* could bestow upon a meritorious citizen, consisted of light holders or cressets, placed at the corners of an edifice. Few examples remain intact in Florence. Of those which the Republic placed upon the city gates, only one is still extant under the arch of the Porta S. Niccolò, a simple and bold production of the eighteenth century, whose vertical bars bloom out into a lily. One more is on the northeast angle of the ancient seat of the Arte della Seta, and yet another on the façade of the Palazzo Quaratesi, now Pisani, both dating from the early years of the fifteenth century and both in good preservation, incised with the graceful X design,



SCREEN IN THE PALAZZO DELLA SIGNORIA, SIENA.
BY NICCOLÒ DI PAOLO



SCREEN IN THE PALAZZO DELLA SIGNORIA, SIENA. XIV CENTURY

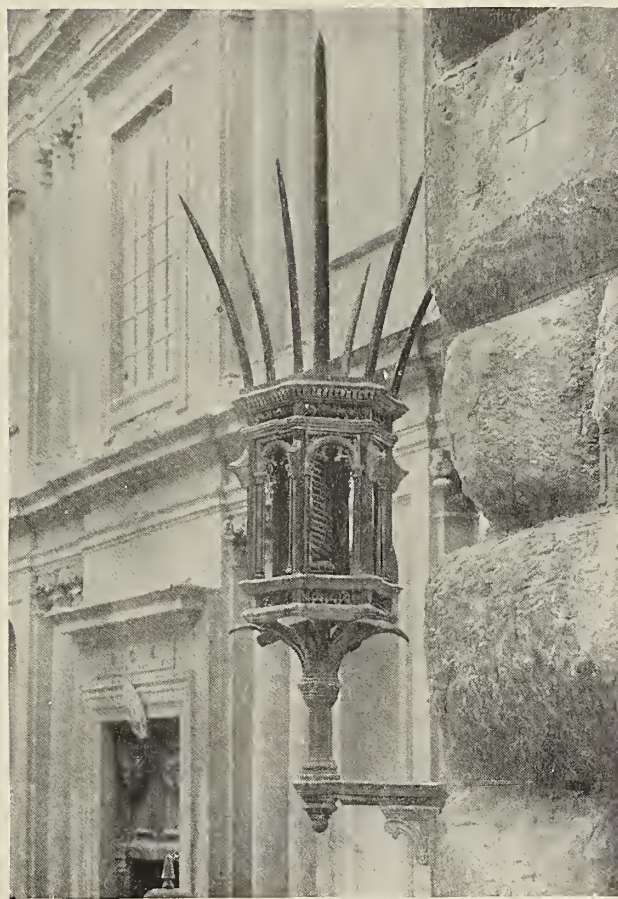
elegant in form and pure in line. But far superior are the lanterns executed by or attributed to Caparra.

The lamps of Niccolò Grosso are distinguished by their pronounced architectural and classic forms, all representing little hexagonal temples, surmounted by a crown of pointed spikes and based upon sculp-

tured brackets. Look at the lantern of the Palazzo Riccardi. From the bracket rises a pilaster with base and capital perfect in all its details; from the capital spring and spread six leaves on which rests a little Gothic temple. Observe attentively the balustrade of quatrefoil partitions, the graceful columns, the Romanesque capitals with their



LANTERN, PALAZZO STROZZI, FLORENCE



LANTERN, PALAZZO RICCARDI, FLORENCE

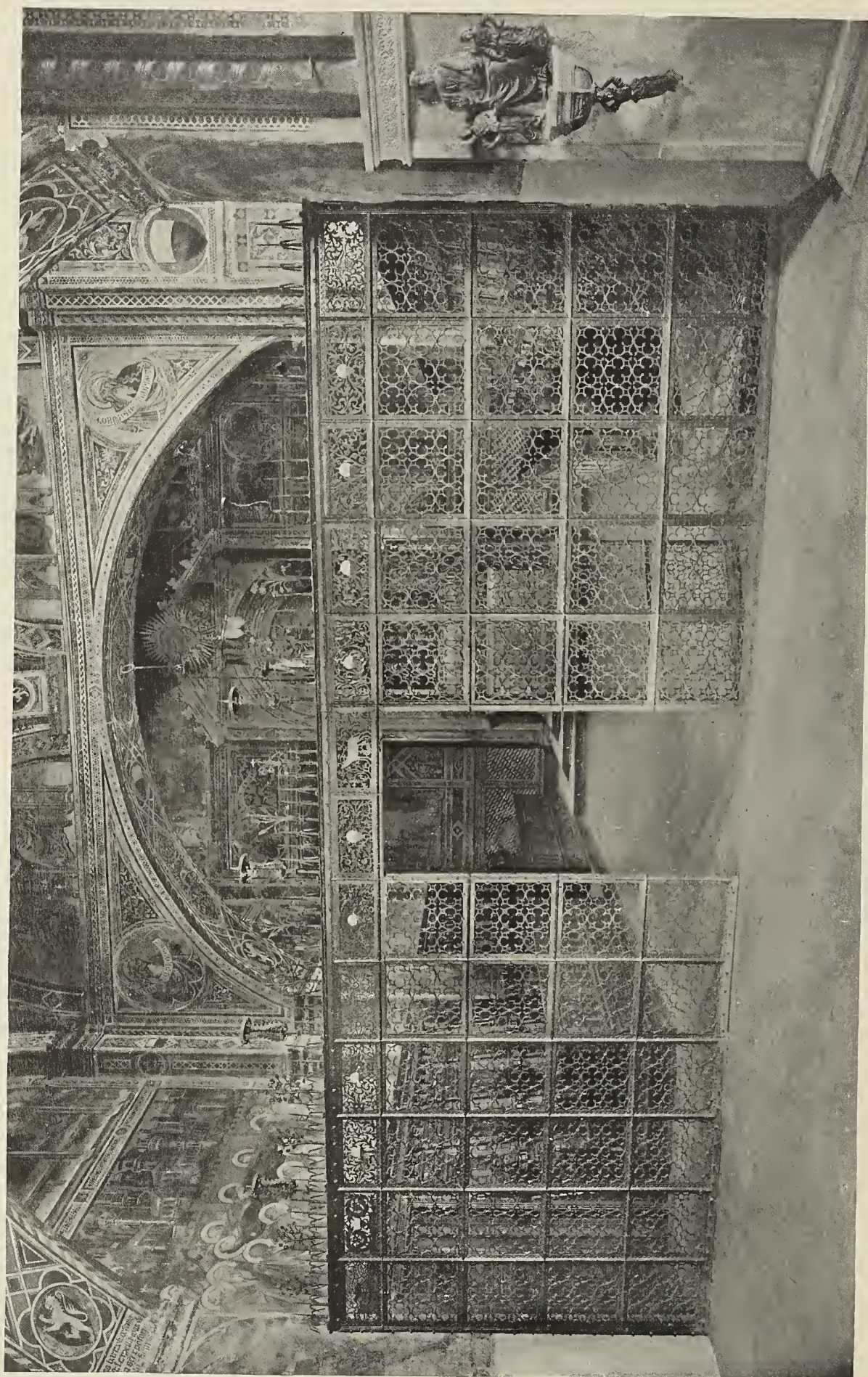
acanthus leaves, the bold arches, the architraves, the frieze, the cornice, and lastly, the six slender surmounting spikes. Could these details be better designed by a valiant architect or be better reproduced in a delicate miniature?

The lantern of the Palazzo Guadagni in the Piazza Sto. Spirito, on the other hand, furnishes an example of purely classical architecture. Six brackets are encircled by foliage. The balustrade is formed of small columns, the capitals are of the Corinthian order, a delicate frieze encircles the top, and on the base and on the apex the spikes are bound together by lilies and convoluted scrolls.

And now let us glance at the masterpiece of Caparra, the lanterns of the Palazzo Strozzi, at which many generations have gazed in wonder and ecstatic admiration. Too well known to need minute description, too beautiful to be sufficiently lauded, I will confine myself to saying with Vasari, "never has any modern man wrought iron work so grand and so difficult, with such science and such skill."

The necessity of defending windows and chapels with some object that should not debar light and air was a need that arose quite early: thus came into being the first screens, consisting of large crossed bars which, according to an old tradition, were introduced into Florence by Walter de Brienne, Duke of Athens. In the course of time the exquisite sense

of the beautiful, innate in even the humblest Italian workman, brought a vivifying breath of decorative art even into these coarse works, and, hence, these screens, still retaining entire their solidity, began to take on the most varied shapes. At first the blacksmiths probably took their inspiration from the windows of those days, introducing a geometric design obtained by joining together a series of iron circles, as may still be observed in the Church of S. Miniato in Monte. After, by an easy development of lines, they came to adopt that characteristic model of quatrefoils that represents the Gothic current which had filtered into Tuscany and was so well adapted to the sober architecture of the pointed arch. An interesting monograph could be written upon this theme of how, in the course of two centuries, time, customs, and artistic standpoints had changed and influenced this design, enriching it with supplementary ornaments, while leaving intact the primary design and sentiment. The outline of a quatrefoil was first produced by piercing and cutting a solid plate of iron. Later, this figure was obtained by cutting out four semicircles and welding them together at the extremities. Still later, there were inserted at the junctures of the curves some secondary points cleaving into trefoils. Afterwards these quatrefoils were enclosed in square bars or in circles, the whole surmounted with a border of plate, pierced with



SCREEN IN THE PALAZZO DELLA SIGNORIA, SIENA

Italian Decorative Iron Work

decorative design of vine sprays, acanthus leaves, flowers, inscriptions and even heraldic emblems.

The oldest iron screen of this character in Florence is that enclosing the altar of S. Miniato in the church of that name. We know from contemporary documents that one hundred golden florins was paid for it by Madonna Lena, the widow of Banco Botticini, and that it was made by Pietruccio di Betto, a Sienese smith, in 1338. Further, there exists a lunette in quatrefoil above the door of the Spanish Chapel which it is believed was executed together with the rest of the ornamentation in 1366. However, still more important is the grating that separates the sacristy of S. Croce from the Rinuccini Palace. The chapel is entered by a pointed archway, closed halfway by a beautiful iron gate, which for choice workmanship surpasses all that can be done to-day, notwithstanding the greater perfection attained in the art of fusing. The inscription, that forms a species of hem to a piece of rich embroidery, is written in raised and

gilt Longobard characters and gives us the date, 1371. The quatrefoil flanks, nevertheless, are a little too large and massive when compared with the marvelous delicacy of the real gate which, formed like a Gothic window, is a faithful reproduction of one of the double lancet windows of Or S. Michele.

More elegant and better proportioned, although more roughly worked, is the fourteenth century grating of the Bartolini Salimbeni Chapel in S. Trinità whose design of thirty large squares of quatrefoils, surmounted by a cornice of delicately pierced iron, picked out with vine and acanthus leaves, is attributed to Lorenzo Monaco. How greatly the use of wrought iron in decorative architecture had increased is proved by the great masters who did not despise to help on the work of the blacksmiths. Even Michelangelo himself is a case in point, for in 1506 he made for the Medici Palace the model of a kneeling window that quickly became common in Florence.

(To be continued)



WINDOW SCREEN, S. M. NOVELLA, FLORENCE

THE NEW HOUSE

HOW FIREPROOFING METHODS ARE APPLICABLE TO ANY TYPE OF DOMESTIC ARCHITECTURE

By F. W. FITZPATRICK, Architect, Washington

"And the wise man buildeth his house so that his enemy, nor the elements, may not destroy it"

AND how many of our homes are so constructed? And what greater enemy have we than the destroying element, Fire? The very rich among us have built their palatial residences of fireproof construction, in a general way, as far as the structural parts are concerned, but they have ignored the very first principles of the prevention of fire by bowing

to precedent and installing the beautiful open stair, well-holes into the second storey hall that assure the complete destruction of at least all the interior decoration should fire declare itself anywhere about the house. But in the great bulk of our homes, 15,000,000 of them, there are probably not 100, barring the ones that cost \$100,000 or more, in which the slightest effort is made at fire-prevention, and indeed very little in the way of fire-retarding, and I



A COLONIAL EFFECT ADAPTED TO TYPE A—DESIGN NO. 1

WILSON & MARSHALL, Architects, Chicago

Plans "A" are my first studies for a house, a fully fireproof house, for a gentleman in Chicago. It is to be built about 30 miles out of town and on the shore of Lake Michigan, a country home, with ample grounds and the surroundings that will make it a "manor." His is a large family, hence the necessity of many bedrooms. It is not desirable to have these upon the ground floor, so I have extended the second storey over the porches, keeping the ground floor, where fewer rooms are required, of reasonable size. The floors being of hollow tile the projecting rooms will not be cold. Note that the servants' quarters are ample, and with the automobile shed are all under the one roof, yet absolutely detachable from the house.

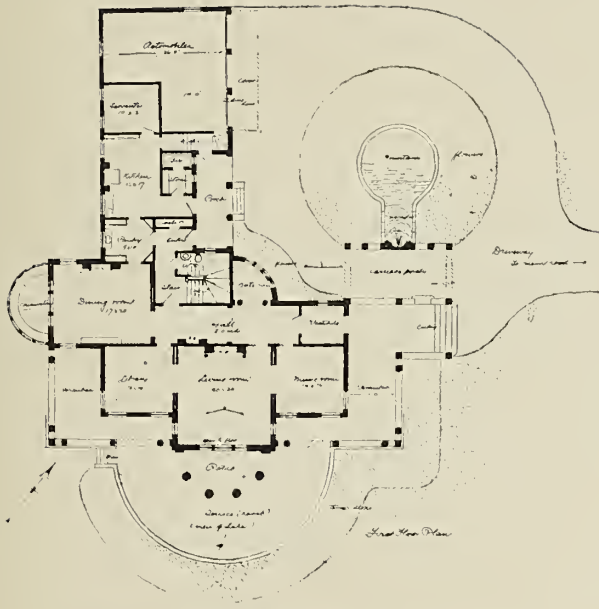
The exterior will be of brick, Colonial in style, good lines but not fussy or expensive. All the finish in the interior will be of asbestos, dependence is placed for effective decorations upon rich coloring in place of expensive wood wainscoting, etc.

Design No. 1 would be well suited to this plan, or design No. 2 could be followed if that style be desirable, all of the work being absolutely fireproof, columns of cement, walls of brick or stucco, roof of asbestos shingles, etc.

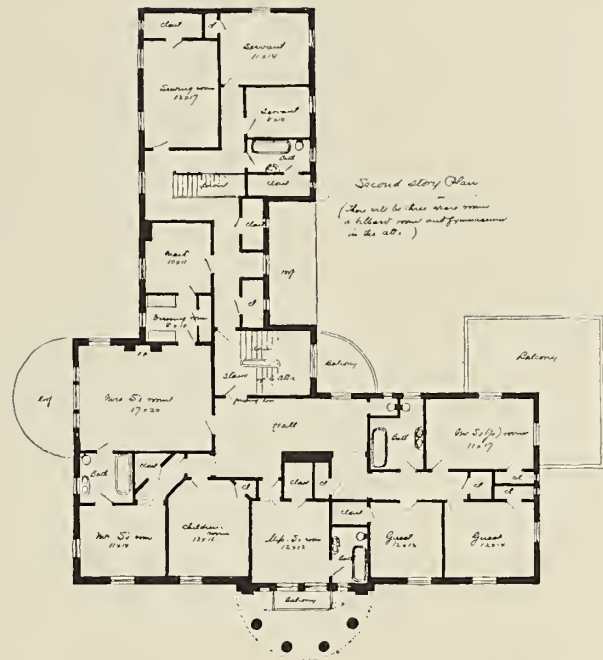
This house is to cost not to exceed \$20,000, including *everything*. There is much plumbing, a fine heating plant, etc., etc., all included, and there will be no "extras."

Built of ordinary wood construction, wood joists, partitions, floors and finish, perhaps \$2000 could be saved in first cost, certainly not more than that.

The New House



GROUND FLOOR PLAN OF TYPE A



SECOND FLOOR PLAN OF TYPE A

know of but half a dozen that are built in their structural parts of non-combustible, non-damageable materials. Wood, wood, and nothing but wood (with perhaps a brick wall occasionally, or a slate roof) constitutes the framework, the skeleton, if not the entire finish of our domestic architecture. And what a shame in this age of progress that it is so!

It used to be the fashion to build business houses, retail stores, hotels, etc., in the same way, but of late years our business men have actually begun to learn that that mode of construction was not only criminal, but actually unprofitable. Ah, that's



AN ENGLISH HALF-TIMBERED EFFECT ADAPTED TO TYPE A—DESIGN NO. 2

LINDLEY JOHNSON, Architect, Philadelphia



A FAÇADE ADAPTED TO TYPE B—DESIGN NO. 3

WILSON EYRE, Architect, Philadelphia

Plans "B" are also for a city house, but a modest one, one of a row of eight to be built in Philadelphia. The house is 20 x 75, absolutely fireproof, built without wood and will cost \$7,500, and is to rent for \$75 a month. The external walls are brick, the partitions are hollow fireproof tile, the floors are of "Johnson system" tile spans full width of house and without any steel, the finished floors of asbestos tile, the doors and windows and stairs of asbestos; there is absolutely nothing to burn. The stairs are enclosed and the one flight serves all purposes. The ground or first floor shows at A, vestibule; B, library or den; C, reception-room; F, pantry; H, kitchen; G, servant's room; J, dumbwaiter (enclosed and automatic doors); E, stairs down to laundry, servants' toilet, furnace, etc., in sub-basement; K, shows a portable platform hoist serving all the houses for moving furniture, etc.

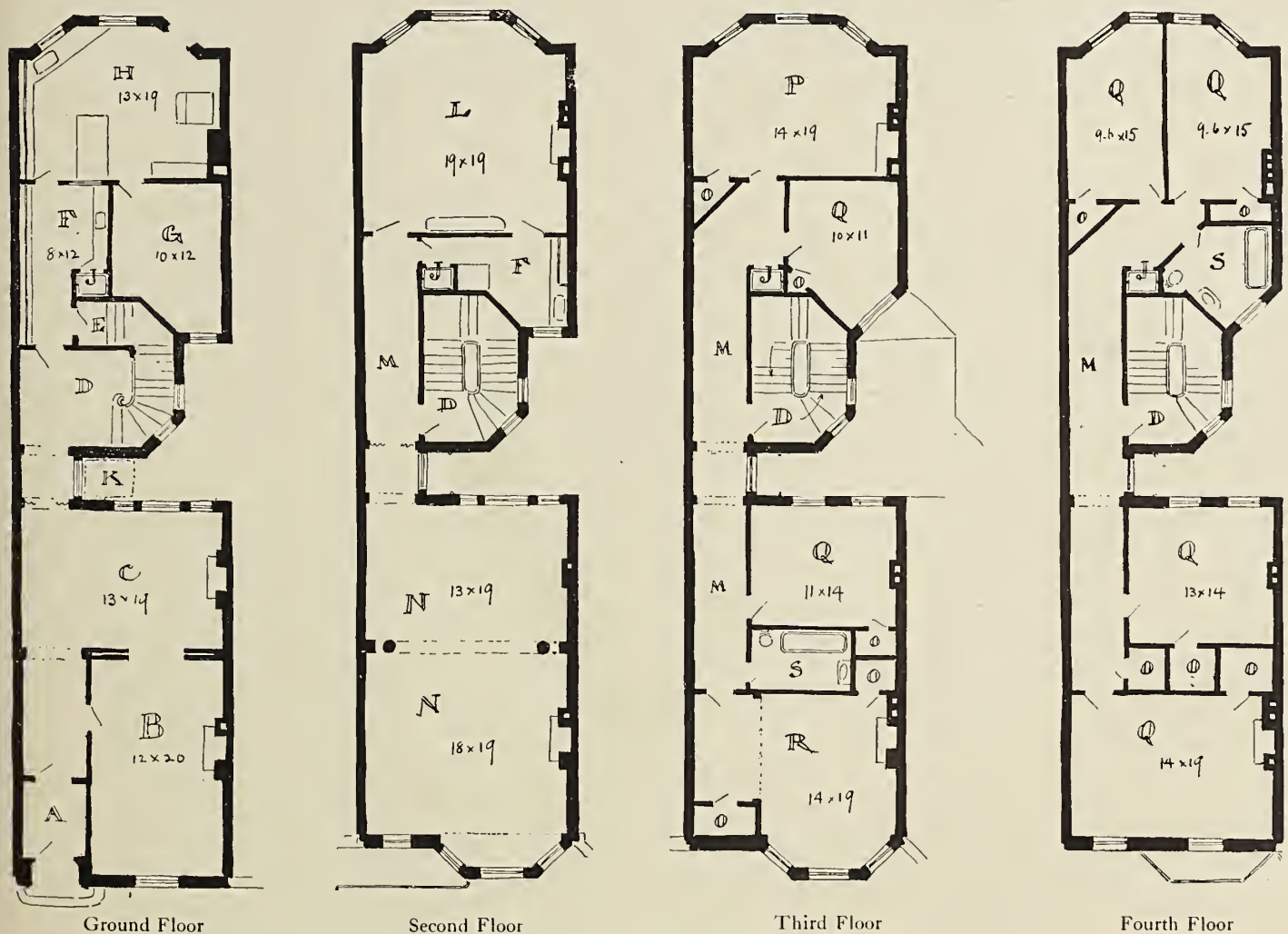
Second floor: N N, parlors; L, dining room; F, serving room. Third floor and fourth floor 8 bedrooms, or seven bedrooms and a sitting-room at R.

Design No. 3 is well fitted to that class of house, a good, clean, plain exterior.

The New House

when the lesson begins to be well-learned; when you touch the pocket-book. That we lost last year 6,772 lives by fire in this country makes our good people very sad indeed, though it deters them but little from so continuing to build that six, or seven, or eight thousand more poor souls will be launched into eternity in the same way next year. But our fires are costing us enormously in money. Last year \$230,000,000 went up in smoke. True, we got back possibly \$200,000,000 from the insurance companies, but then again to get that \$200,000,000 we had paid the insurance people \$500,000,000 in premiums. Then our fire departments are costing us enormously, the installation of new apparatus and improved water systems and supplies means more and more taxation and, as I say, our business men are awakened to the realization that this foolish way of building is a costly one, too, and so they are beginning to listen with some attention when we talk to them about fireproof construction. In most cities buildings of over three or five stories are compulsorily of fire-retarding construction. There was a time, twenty or more years ago, when wood was very cheap and steel and tile were comparatively

dear. Then, it was economy to build flimsily. To-day, wood is almost a luxury, for it has increased 150 per cent. in price in the last fifteen or twenty years; while brick, and tile, and steel are now manufactured at comparatively low cost. As a matter of fact, a well-built fireproof structure to-day costs, as a general thing, not over ten per cent. more to build than a structure whose principal parts are of wood, and, in a great many cases, for large halls, store buildings, and certain other classes of construction, fireproofing costs not over five and six per cent. more than wood. And that is in the *first cost*, mark you. When you come to count up, as a business man must, the difference in favor of fireproof as regards the longevity of the building, its greater immunity from deterioration and necessary repair, the fact that little or no insurance need be carried on the construction itself, you find that the building properly constructed, of brick and steel, and fireproof clay tile, means a less ultimate total investment than the flimsiest of cheap wooden construction, while at the same time it brings in far greater returns in rentals, affords far greater satisfaction and affirms one in the belief that he is a good citizen and has accom-



FLOOR PLANS OF TYPE B



DESIGN NO. 4—WELL SUITED TO TYPE C

NETTLETON & KAHN, Architects, Detroit

This is an ordinary suburban villa, to be built in Portland, Oregon, and will cost \$8,000, complete in all particulars and fireproof. The man for whom I designed it likes the idea of or the appearance of wood siding and shingle exterior, so I will design it to look something like design No. 4, which he likes very much, but the walls will be hollow tile covered with *asbestos* siding and shingles, instead of wood, and painted any colors he wishes. The partitions will be hollow tile and the floor construction of wide-span tile without steel, but the finish, doors and top flooring, etc., will be wood—he wants it so. The first floor shows open porch at A, parlor B, sitting-room D, dining room E, kitchen F, pantry G, ice S, hall C, hats and coats T, and stair at H. Note that the stair is entered from pantry, as well as hall, and serves as “back” as well as main stair, and its being closed assures perfect privacy. There is a wide door from the hall, and windows of art-wired glass; also an outside door for the boys on the landing of the basement stairs. These generally noisy fellows may go up to their room without going through any part of the house. Second storey has bedrooms at I, J, K, L, bath at Q, closets at M, linen, etc., at P and R. There are three bedrooms in attic and a well finished basement with laundry, heating plant, etc. A well-equipped, modern house.

plished a duty toward himself, his fellow men, his city and, necessarily, his country.

Years ago, when fireproofing was costly, people knew it and cited that as one argument why the better construction should not be used in houses. People have never forgotten the argument, for it is still heard on every side. It is well known that precedent and custom have a strong hold on our people! As a matter of fact, to build a house of wood in a way approaching what might be termed the perfection of imperfect construction—that is, with furred walls, deadened floors, and all that sort of thing (which people resort to in an attempt to make the best out of a bad bargain)—your wooden framed house not only costs you more in the long run, but more actually in first, primary cost, than one of ordinary fireproof

construction where no such extraordinary care has to be taken.

In closely built blocks in the cities, where danger is even greater than in the suburbs or the country, fireproofing is all the more necessary. Admitting its necessity, and that it is not the costly thing you used to imagine, you naturally ask, “what does constitute fireproof?” You have heard about so-and-so’s building which was “slow-burning,” or some people even called it “fireproof,” and it burned down inside of an hour; and such another, an apartment house or church in which all the framing was of steel, and the outer walls of stone, went by the board in even less time; it didn’t burn but it fell down, all warped and mangled by the fire. Therefore—“What *is* fireproof?”

The New House

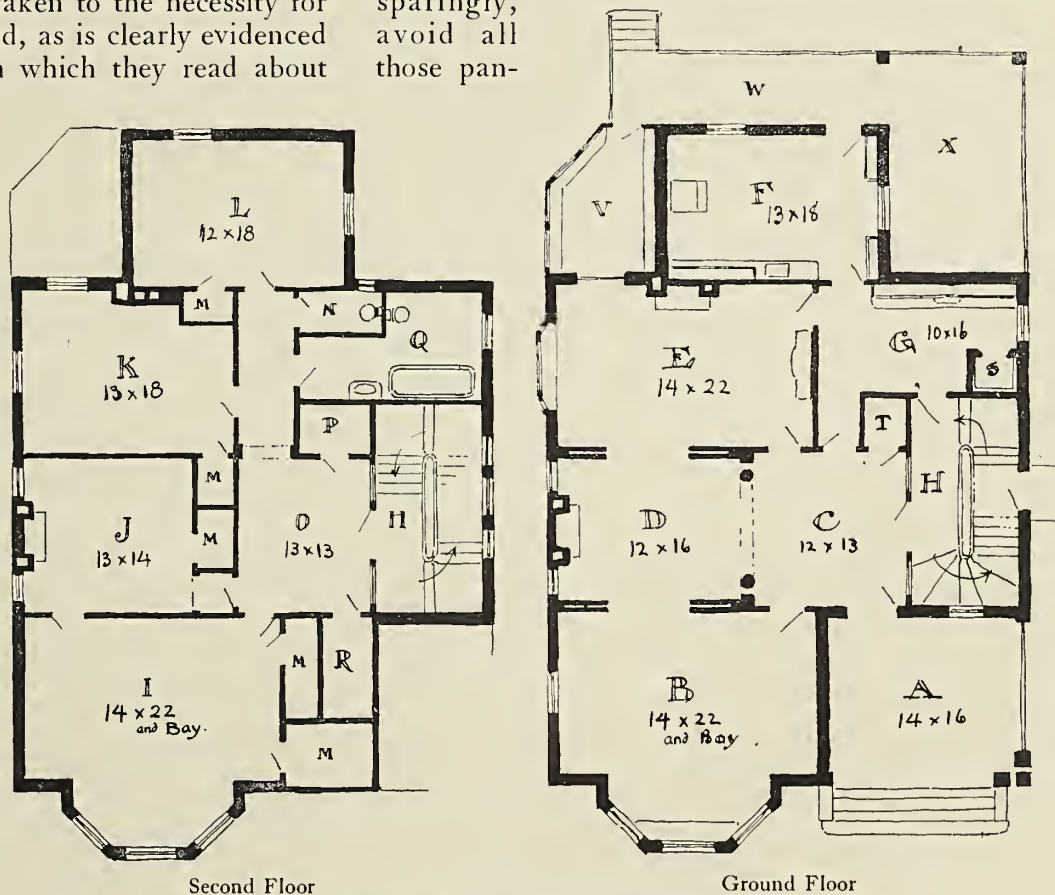
Fireproof construction, in the full sense of the term as we know it and would like to have you understand it, means not only the elimination of wood, but the avoidance of materials that, though not combustible, are damageable and indeed destructible by fire and heat, or if we have to use them, then so protecting them with materials that are not so damageable, that is, brick and terra-cotta and tile, that fire cannot get at these damageable parts. Under the heading of such destructible materials are granite, all stones, steel, iron, cement, slate, marble, glass. The ideal building is one whose materials have in their manufacture passed through far greater heat than that to which they can ever be subjected in any conflagration, however intense. If stone and granite have to be used, then place them in the lower storeys of buildings, where they are not so easily assailed by flames in adjacent structures. Fire, you know, always tends upwards and augments, in degrees Fahrenheit, as it progresses—to a certain point. If steel is to be used in structural members, beams, columns, etc., then it has to be encased in cement and a protecting covering of fireproof tile.

Good judgment as well as skill has to be used in the construction of buildings. Little of that material, I mean good judgment, is used in the construction of houses. Some few cottages, costing about four thousand dollars, have recently been built in Pittsburgh, that were made thoroughly fireproof. But people are beginning to awaken to the necessity for doing something of that kind, as is clearly evidenced to me by the interest with which they read about fireproof construction of homes whenever anything is written on that subject, and in the letters I am daily receiving from people groping about, wanting something better than they now have, but knowing not what to settle upon.

An ideally fireproof house is one whose outer walls are of brick, or tile; indeed, even the commonest brick can be covered with stucco and made very attractive. Strange, indeed, how very little enameled brick is used; few materials more beautiful can be given such a variety of color, are as effective or cost less than that splendid brick. If external ornament be much desired,

then make the decorations of terra-cotta, or molded cement; even the latter is far preferable to stone or granite, which go all to pieces in a good hot fire. Cover the roof with tile, or if you can't stand that expense, and like the shingle effect of your forefathers, use an asbestos shingle that looks for all the world like wood, costs but a trifle more, lasts forever, requires no painting, and is better than any slate, or tin, or composition that has yet been put upon the market. The interior partitions should be of fireproof tile. It is easier to plaster, it takes less of it, besides being fireproof and adding greatly to the warmth of the house in winter and coolness in summer, not to mention that there can be no cracks in the plaster and no settling or unsightly shrinking. The floors should be constructed of wide span tile construction, no steel beams are required, the floors are sound proof, absolutely vermin proof, substantial and easily constructed. The finished floor should be cement, or tile, or marble if you can afford it, or of asbestos—anything in preference to wood, that is unsanitary as well as a fruitful means of carrying fire from room to room.

The interior finish should be plastic as much as possible. Soon we will have doors, sash, baseboards, etc., made of asbestos that looks just like wood and costs in most cases less than the wood it imitates. But if that will be too radical a step forward for you, then use wood in your interior finish, but use it sparingly, avoid all those pan-



FLOOR PLANS OF TYPE C



Plans "D" are of a house to be built in Washington for a very wealthy man in public life, and who will live in it perhaps three months of the year. It is essentially for social functions, and is a full-fledged city house, covering an entire city lot of 25 x 100 feet. The gentleman has been burned out of house and home three times, so that he fell an easy prey to my "fireproof" arguments! There will not be \$50 worth of wood anywhere about the house. Bids have been taken and it is going to cost \$41,000. The exterior is to be of stone (it is not exposed to any great dangers from external fire) but all the construction is to be fireproof, the finished floors of marble and tile, and the doors and finish of metal and asbestos. The interior will be quite elaborate, but plastic decorations and fine frescos will take the place of the customary expensive woods.

Referring to the plans, the ground floor shows: A, vestibule; B, office; C, reception-room; D, elevator; E, coat-room; G, toilet-rooms; H, stenographer's office; I, servants' dining-room; J, enclosed stair for all purposes; L, kitchen; M, ice pantry. Heating plant and stove-rooms in sub-basement. Rooms H and I serve as dressing-rooms at the larger functions.

First floor plan: D, elevator; T, drawing-room; R, dining-room; Q, breakfast-room; L, serving-room; J, stairway. Second floor: X, family sitting-room; W, serving-room; V V, the young gentlemen's rooms; U, day-nursery; G, toilet; F, closets; E, halls. Third floor: Mr. and Mrs. H's rooms, bath, etc., at V5-V6; D, elevator, children's rooms, nurse, etc., at V, V2, 3, 4. Fourth floor: Y, billiard-room and guest chambers at V7, 8, 9, and Miss H's room, bath, etc., at V10. Fifth floor: Space Z Z used as gymnasium ordinarily, and ball- or banquet-room on occasions; G2, a plunge-bath; V11, housekeeper's room; V12, sutler's. The other servants live, as nearly all Washington servants do, at their own homes.

The New House

eled ceilings, high wainscoting and wonderfully contorted stairways, and in the finish of the wood use fireproof paint or take such precautions as will prevent it from being too fruitful an agent for carrying fire. Allow no vertical openings through your floor, enclose your stairways and put fireproof automatically closing doors at each landing. It will be a little trouble at first, to open a door every time you go up and down stairs, but you will be well repaid for the trouble. In the average house, fire almost invariably starts from the basement or kitchen and in a minute is up to the top of the house, or at least the upper storeys are suffocating with smoke, and the draughts will soon draw the fire upwards. Close your stairways and that is eliminated. Your incipient fire is confined to the place in which it starts. Neither smoke nor flame goes up the stairway. Besides, your house will be easier to heat. When you are downstairs with company, for instance, you will not hear all that is going on upstairs. It has a thousand advantages, so close up all your stair-wells.

Now with a house built in such a manner, you will have eliminated fire from the equation as far as structure goes. If you use good sense in the decorating and furnishing of your house, cutting down the fussy, wooly draperies as much as possible and the other fruitful spreaders of flame, and depending upon good color schemes and fine lines for effects, you can live in pretty nearly perfect safety, because if a fire should start in the fuel room, or in the kitchen, or a lamp upsets in your bedroom, or anything of that kind, there is comparatively little upon which fire may feed, nothing structurally inflammable for that flame to gobble up with avidity and carry it to the uttermost extent of the house, while the matter of putting out the incipient blaze is child's play.

Going back to the open stairway question, are you aware of the fact that the aforesaid opening ordinarily found in our houses adds just about fifteen per cent. to your cares, work, and inconvenience?

Every time you sweep a room in the lower storeys you are merely transferring dust to the upper ones. The open stair means a draught all winter, the addition of about twelve per cent. to your coal bill, and oftentimes the addition of a very large per cent. to your doctor's bill. Altogether, I consider the open stair-well one of the worst features in modern house construction—a menace to life, health, comfort and peace of mind! Besides, by enclosing your stairway you can make it serve all the purposes of the house, and by properly locating it you can do away with back-stairs, servants' stairs and all that sort of thing that normally eats up a very considerable percentage of floor space.

Illustrating these brief notes I show a number of houses, one in each of the several classes of expensive,



THE FAÇADE OF TYPE D

F. W. FITZPATRICK, Architect, Washington

ordinary and modest domiciles, that may not be without interest to my readers. These sketches of what is proposed to be done by intelligent people of each class show the possibilities of the construction, and that to build well is not beyond the reach of any man who can build at all. He who can afford to put three thousand dollars into a house can certainly afford to make it thirty-three hundred dollars and have a permanent and safe investment, besides saving more than three hundred dollars in insurance alone, not to count the greater peace of mind, comfort, and satisfaction there must necessarily come to anyone who does anything well.

HOUSE AND GARDEN CORRESPONDENCE

RE-MODELING A BATHROOM

I wish to re-model my bath-room. It is not large, being 7 x 9 feet. I shall have it fitted with all modern plumbing appliances and a porcelain tub. Kindly advise me as to treatment of side walls and floor. The floor is of maple; would you use linoleum on it? There is one small, rather high window with leaded glass effect.—M. P. H.

There is a very wide choice in color and style of tiles for bath room finish now to be obtained, one large manufactory making a specialty of meeting all needs in this line. If they are supplied with sample of color desired, they will guarantee a perfect match. These tiles are made in all finishes. One attractive treatment for bathroom is to use the blue and white tiles for its side walls. A band of the blue tiling at the floor line supports the white tiled wall to the height of 7 feet, where a narrow band of the blue is set. The ceiling, which is drop in effect and reaches to this blue line, should be painted in oils the exact white of the tiles. Wherever possible, the fixtures in a thoroughly sanitary bath room are now of glass; the rollers for towels are a new feature in this. Your floor of maple should be left unstained and finished with three coats of florsatin. Washable rugs in blue and white, carefully matching the shade of blue in the tiling, should be used. Blue and white casement muslin would make attractive curtains for the window; these to be made simply with a hem at the bottom and run on a rod at the top.—MARGARET GREENLEAF.

RE-DECORATION OF A PARLOR

In view of the many valuable suggestions given in your correspondence column, I am led to ask your advice in the matter of the re-decoration of my parlor. The house is of the ordinary city kind; the parlor used perforce as a living-room, and the dining-room is on the first floor. The parlor is eighteen feet by twenty-five, and the advice I wish to obtain is for the coloring of the walls. The carpet is of greenish blue in different tones. The paper suggested by the decorator is of light greyish green, the woodwork to be of ivory white. This does not altogether appeal to me and I would be obliged if you would tell me what you think of the effect, if you can suggest something better. Light yellow is on the wall at present, and I do not care to have the same again. Your advice will be much appreciated.—M. K. L.

There is a paper this season with a design of English make which comes in two-toned soft blues for the side walls. With this comes an 18-inch frieze of hand blocked conventionalized floral design showing old rose and blues in varying tones softly mingled. The ceiling of this room should be tinted a soft shade of *café-au-lait* or very yellow ivory. Over the lace curtains at the window, draperies of a brocade showing a design of roses in old rose with a suggestion of blue flowers and some green foliage on an ivory ground. This same brocade would look well if used as upholstery for some pieces of furniture in the room. If but one piece should be desired, a winged chair would be an excellent choice. You have failed to mention the exposure of your room in your letter. I have taken as a guide the fact that the decorator had suggested green for your side walls, and therefore suppose the room must be of southern exposure, otherwise some design in rich yellow would be your best choice, as there are certain shades of almost orange yellow, which show very beautifully with the blue greys of your carpet.—MARGARET GREENLEAF.

DISPOSAL OF SEWAGE IN THE COUNTRY

What is the best method of disposing of the sewage from a country house of moderate size where there is no general system of sewers? I have access to a stream of running water, but hesitate to discharge into it on account of my neighbors below, as I believe no such use is made of it in this district.—L. T. C.

Untreated sewage, that is, sewage not rendered innocuous by chemical or other means, should never be discharged into running water. The most inexpensive method of disposal is by means of leaching cesspools. These are built with walls of dry or unmortared stone, through the crevices of which the sewage will escape into the surrounding earth. Two precautions must be observed: The cesspool must be placed in sandy or other porous soil, as stiff, clayey soils would interfere with its operation, and it must be so located as to avoid the remotest chance of contamination of the water supply where this is drawn from wells or cisterns. This latter condition is of vital importance. A modification of this system is often used to advantage in which the wastes first empty into a water-tight cesspool, into which the solids settle, while the liquids flow by gravity into a second or dry wall cesspool, whence they lead away into the soil. This is a better method than the first, as a dry wall cesspool will, in time, become clogged, necessitating the building of a new one; but the first or water-tight cesspool must be cleaned out occasionally as it fills with solids. A more expensive but very efficient method, and from a sanitary point of view a preferable one, is the subsoil irrigating system, which consists in principle of the substitution for the leaching cesspool of a series of terra-cotta pipes with open joints about eight inches under ground, with grass, or in some cases, truck patches over them. This is generally known as the Waring system, and needs the supervision of an expert for its installation. An illustrated paper on this method of sewage disposal, by an expert engineer, is in course of preparation for publication in HOUSE AND GARDEN.—C. E.

READY MIXED PAINTS

May I ask you to intervene in a controversy between my painter and myself about painting my house here in the country? The question at issue is, whether "ready mixed" or special made paints are the best. The best, that is, regardless of the question of first cost, taking permanent color and durability into account.—N. D. H.

Two answers can be made to the above question, depending on circumstances. Given a thoroughly trustworthy painter, who knows what good material is and where to buy it, there can be little doubt that the best results will be obtained by mixing the paint on the spot when and as it is to be used. Theoretically there is no valid reason why "ready mixed" paints should not be as good as those mixed on the spot. Practically, however, the best ready mixed paints are not so good. This can be said for them, however, that the best brands are better than much paint that is put on by the local painter and of his own mixing, for the adulteration in the cheaper grades of paints and oils is quite as unblushingly villainous as in most other commodities. Therefore, given an incompetent or dishonest painter, I would rather trust to the results obtainable from a good ready mixed paint; though with the latter type of workman it must be insisted upon that the paint shall be delivered at your house in the original packages, opened under your inspection, and used according to directions. As to the question of color, there may be some difficulty in getting just what you want, but this can usually be overcome.—C. E.

NOTES AND REVIEWS

TRADE CATALOGUES AND THEIR REMEDY

THE avalanche of trade catalogues which annually showers upon every architect in active practice is a source of extreme vexation to the office force. Containing, as they do, matter of real interest and importance which is necessary to the correct wording of the specifications, the extreme disparity in size and shape which these catalogues display have rendered nugatory all efforts to file them systematically, so that they may be found at once when needed. One or two serious attempts have been made involving the use of special filing cabinets, but they have been fundamentally unsatisfactory. To overcome these defects and preserve the essentials of the matter, Mr. H. W. Desmond of the *Architectural Record*, as editor, has prepared "Sweets' Indexed Catalogue of Building Construction," which includes within the covers of one large quarto volume all of the essential matter contained in the multifarious catalogues as hitherto published. Uniform type; matter arranged solely with a view to ready reference, and a scientific cross index, go to the making of a handy and comprehensive volume, which will be found simply indispensable to the office. We have seen the advance sheets of this work and venture to predict an embarrassing situation for Mr. Desmond when he receives the applications for space in the second edition. No material-man can afford to remain for a moment unrepresented in this publication after the thousands of copies of the first edition reach the hands of the subscribers.

Professor Nolan, assistant professor of architecture at the University of Pennsylvania, writes an attractive introduction fully explaining the scope and purpose of the enterprise.

T SQUARE CLUB

THE T Square Club Exhibition has been successfully opened in the galleries of the Academy of Fine Arts. An illustrated account will appear in an early issue of *HOUSE AND GARDEN*. Meanwhile a word may be said regarding the very attractive catalogue which has been successfully issued by the committee in charge, and especially of the judicious selection and arrangement of the exhibits. The increased wall space at the disposal of the hanging committee has been wisely used by them not for the purpose of crowding more exhibits together but for the securing of a better classification and display of a carefully chosen minimum number of drawings.

The addition of the decorative work in stained glass, terra-cotta and textile lends an added interest.

INTERNATIONAL CONGRESS OF ARCHITECTS

THE seventh International Congress of Architects will be held in London in July of this year, under the patronage of the King, with the Prince of Wales as Honorary President. The following programme has been officially adopted:

16-21 July.—Subjects for Discussion

1. The Execution of Important Government and Municipal Architectural Work by Salaried Officials.
2. Architectural Copyright and the Ownership of Drawings.
3. Steel and Reinforced-Concrete Construction:
 - (a) The general aspect of the subject.
 - (b) With special reference to æsthetic and hygienic considerations in the case of very high buildings.
4. The Education of the Public in Architecture.
5. A Statutory Qualification for Architects.
6. The Architect-Craftsman: How Far Should the Architect Receive the Theoretical and Practical Training of a Craftsman?
7. The Planning and Laying-out of Streets and Open Spaces in Cities.
8. Should the Architect have Supreme Control Over Other Artists or Craftsmen in the Completion of a National or Public Building?
9. The Responsibilities of a Government in the Conservation of National Monuments.

The Executive Committee will be glad to receive Papers on any of the above subjects for presentation to the Congress. Papers may be written in English, French or German.

Each Paper must be accompanied by an abstract of not more than 1,000 words.

Papers and Abstracts must reach the Executive Committee *before the 30th April, 1906.*

All communications to be addressed to the Secretary of the Executive Committee, 9 Conduit Street, London, W.

A GREATER HARRISBURG

UNDER the leadership of the Municipal League of Harrisburg, of which J. Horace McFarland is secretary, that city is making substantial progress along the lines of parks, scenery, street paving and other municipal improvements. As one of the newspapers, in commenting on the recent meeting of the League, said: "Last night's meeting gave additional emphasis to the fact that there is not a single branch of official or semiofficial Harrisburg which is not in full sympathy with the movement for a greater Harrisburg."

AMERICAN PARK SYSTEMS

THE existing and proposed outer park systems of American cities form the subject of a report just issued by the allied organizations of Philadelphia. The text, which has been prepared by Mr. Andrew Wright Crawford and Mr. Frank Miles Day, sets forth in a most lucid and interesting way the recent extraordinary growth of public sentiment and accomplishment in the matter of public parks throughout America. Numerous maps, printed in colors and photographs, abundantly illustrate the schemes of the various municipalities, and the well-deserved success of this report is indicated by the extraordinary demand for copies. The first edition is exhausted and orders for hundreds of additional copies are now being met.

BEAUTIFYING NEWARK

A LOT of good work has been done by the municipal tree planting commission of Newark, New Jersey, which was appointed last year. Its report shows that more than 750 trees have been planted. Besides planting trees, the commission has seen to it that the fine elms in the several small parks in the centre of Newark are not devastated by scale or insects. The length of street planted on both sides is estimated at five miles. The cost of the trees was assessed on the property owners. None of them objected, and all appeared to like the idea of having good shade trees in front of their buildings. Property owners who desired to plant trees on their own responsibility were encouraged and assisted in making selections by the commission. About one-third of the entire number of trees set out are elms, either of the American or Norway sort. There were many linden and poplar trees planted also.

PRESERVE THE REDWOODS

THE proposition has been made that the Redwood Canyon, which lies at the foot of Mt. Tamalpais and within easy reach of San Francisco, containing about six hundred acres, two-thirds of which are covered with magnificent redwood trees, great ferns, and the beautiful undergrowth peculiar to California forests, should be made into a natural park for San Francisco. The suggestion has a double significance. In the first place, because it will increase the park facilities of the city and change private ownership of an unusually beautiful spot into public ownership, and, secondly, because it will preserve the handsome redwood trees now growing on the tract. As a Sacramento paper recently said: "Such action would be right in line with the policy followed by the State and numerous cities. The State has purchased the Great Basin of the Santa Cruz Mountains for a State

Park; Los Angeles has numerous tracts lying outside the city limits, one of them, at least, containing 3,000 acres, which are used or being prepared for park purposes; San José has a beautiful natural park at Alum Rock, several miles outside the city limits. There are plenty of precedents to govern San Francisco in acquiring the Redwood Canyon property, and if the purchase be made the city will have one of the most beautiful parks in the world."

GROUP PLAN

CHARLES CARROLL BROWN, a former city engineer of Indianapolis, has submitted tentative plans for making a "City Beautiful" of Indianapolis to the civic improvement society of that city. This organization has had under consideration the propriety of the city's regulation of the height of buildings hereafter to be erected in Monument Place, and Mr. Brown's recommendations and plans are the result of the work of the committee appointed to consider the subject. His report considers first the group plan for public buildings and then makes certain definite suggestions for the establishment of a group of important buildings in Indianapolis, taking the Circle at Monument Place as the basis.

HOW TO HAVE GOOD ROADS

THE best possible way to interest people in a good roads movement is to manage to get a good sample of good roads made in the middle of the worst bit of bad road you can find. I have in mind the experience of my friend Hale, many years ago, at the beginning of the good roads movement in Connecticut, where, after several years of fight, he secured permission to put a few rods only of good road as a sample. He selected the middle of a very muddy section of road, and the next season's experience convinced everybody of the value of good roads, and there was no more trouble in that region.—J. HORACE MCFARLAND.

STREET SIGNS

THE editor of an advertising trade journal in commenting on the agitation in New York over the signs in the Subway has called attention to the indifference of the public to the mission of street signs in New York, saying: "In no other civilized collection of streets in the world is so helpful and necessary a device as the street sign so woefully neglected as it is in this greatest metropolis of the western world. This absence not only delays business *** but it aids criminality. In spite of all this the chimera of business legends underground has the floor for opposition and hostility as much as if they were proven germs of disease."

House & Garden

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CARRERE & HASTINGS, Architects

House and Garden

Vol. IX

February, 1906

No. 2

ON THE CHOICE OF STYLE IN BUILDING A HOUSE

BY FRANK MILES DAY

President of the American Institute of Architects

NOT long ago, the editor of HOUSE AND GARDEN was asked by one who was about to build a house, what style it would be best to choose. The editor answered that the right course was to retain an architect of known ability and let the architect select the style. To this the would-be house owner answered, that he had already done so, but that the architect seemed as incapable of reaching a decision as he himself had been. He added, that there must be some fundamental principles which should control the choice of style for any given building, things subject to reason rather than fashion, and he suggested that the editor might well start a discussion of such questions. It is as a part of this discussion that the following thoughts are put forth.

The first thing that occurs to me, and this without in any way attempting to beg the question, is that a deliberate choice of style is by no means an essential, is indeed often a grave hindrance, to a right and reasonable and beautiful solution of the problem of building. And by style, I here mean just what the editor's questioner meant, that is to say, a well de-

fined mode of building prevalent in some certain place and at some certain time.

Normally, style of this sort originates from the needs of a people, from the materials at hand and from a desire to build with beauty; but in the course of its evolution, it is always modified and held in control by the builder's knowledge of what has gone before or what is going on at his own time. Until the revival of learning, the age of the conscious, passionate striving to resurrect the glory of the classic ages, there were but few, if any, deliberate attempts to hark back to an earlier manner of building. The ancients had done that sort of thing in sculpture when they had imitated the early work of their forbears in a way which, strive as it might, could not seize the real archaic spirit, the way we now call archaistic. But in architecture it is hard to put one's finger on that sort of thing earlier than the time of the Renaissance. Then, gradually, the old order gave way to the new. To be sure, even after the change, the needs of the people had to be met, and their needs were very different from those of the ancient Romans,



COTTAGE ON LEHMANN STREET, GERMANTOWN, PHILADELPHIA

WILSON EYRE, ARCHITECT

House and Garden



MRS. COMEGYS' HOUSE, CHESTNUT HILL, PHILADELPHIA
COPE & STEWARDSON, Architects

but such as they were, they were met in the way in which the men of the Renaissance thought the men of the Augustan era would have met them.

And thus for the first time arose the question of a deliberate choice of style, a resuscitation of a way of building in use in other ages and under other conditions. And this is what we have been trying to do ever since, only we out-Herod Herod. The men of the Renaissance were in unison as to the style they wanted to imitate. We do not know our own minds; we do not know what age, what country to set up as our standard and the voices that would guide us are but crying in this wilderness of indecision. But there is one thing well known, completely agreed upon by all who have given serious thought to it:—that it is not by the copying of the outward forms of any architectural style that we can hope to make our work vital and worthy. If from a plan suited to the needs of a given building, if from a reasonable and appropriate choice and handling of materials, there should grow beauty, it is all that we can ask and all that we need to ask. Simple as it sounds, the doing of the thing is difficult beyond conception. Few can do it well or even passably. Granted that this

is the right way, the only way by which we can hope to make buildings truthful and beautiful and eloquent of their time and place, it is easy to see how a choice of style from *a priori* considerations is a most grave hindrance to the following of it.

And having said all this, I am prepared to grant, paradoxical as it may seem, that style in architecture is the one quality that above all others secures for a building the esteem of generations of men. But style in this sense is not an affair of archæology but an abstract quality, a subtle excellence very hard to define. Perhaps it may be made clear by comparison with that same quality of style as we think of it in the sister art of literature. If a writer reaches real distinction, it may well be assumed that his work has the quality we call style, and we do not demand that this style be that of a definite school. We do not ask him to

write like an Elizabethan dramatist, or a Georgian essayist, or a pre-Raphaelite poet. If he have something worth saying, and if he surround the saying of it with that indefinable thing called literary style, it is enough. Now this precisely is the sort of style that we should demand of the architect. That he know the grammar of his art, that he plan simply and directly, that he build strongly is not enough. Has his work expression? Has it the high quality of style? Has it, in other words, an excellence of design that raises it to the



HOUSE AT FOX POINT, WISCONSIN

ELMER GREY, Architect

On the Choice of Style in Building a House



CHENONCEAUX FROM THE RIVER

plane of serious consideration? This, after all, is the thing that is to distinguish his work from that of his fellows.

And how have such of our architects as have striven for it, succeeded in making houses interesting and beautiful without resorting to the easy trick of using a definite historic style. One way of doing it is certainly by means of those simple, local materials, whose use is so finely and justly praised by Mr. W. L. Price, in his admirable article in the October, 1905, *HOUSE AND GARDEN*. He has a message for us, the essential truth of which we cannot too quickly take to heart or put in practice. Nor are we lacking in examples of the way to do such work. Mr. Price has, himself, built such a house at Wallingford, in which the local stone, bearing ruddy stains of the iron that is in it, plays the chief rôle. In the house built years ago at Chestnut Hill, by those two splendid men and admirable artists, John Stewardson and Walter Cope, in whose untimely death American architecture suffered so heavy a loss, we see again a local stone, this time the cool grey mica schist, handled in traditional ways, but with a freshness and a personal

note that will make this house last as one of the most interesting in Pennsylvania. Even in Elmer Grey's house at Fox Point, Wis., although the use of local material is less evident, the simplicity and directness of the design make it worthy of consideration with the others. Similar qualities of freedom, charm, personal expression we see in Wilson Eyre's house in Germantown; but examples might be given by the score.

These things are the true answers to our amateur's question. This is the style, conditioned on local materials, vocal of our own time and place; reasonable, appropriate but nameless, that should come naturally to us and not as the result of a deliberate choice.

Unfortunately, we use the same word to indicate the high degree of excellence in architectural design of which I have been speaking, and also to indicate a manner of building in vogue in a certain country at a certain time. But let us avoid confusion by recognizing the fact that while style in its higher sense may be present in a work which it is quite impossible to tag with an archaeological label, it may

House and Garden

equally be present in a work of the most definite archæological sort. Such, to take an example in a French manner, is the Townsend House at Washington, D. C., by Carrère & Hastings, or, to take one in an English style is the country house by Cram, Wentworth & Goodhue. On the other hand we must bear in mind that a work filled with archæological accuracy may be quite devoid of style in the truer, higher sense.

But this high quality of style is after all not the sort of style in which our editor's questioner is interested. He is concerned with something far less subtle. Is his home to recall a Tudor manor, a Tuscan villa, a château by the Loire, or a Virginia homestead? The world is all before him where to choose. Unfortunately he demands guidance as to his choice and insists that this guidance shall be based on fundamental principles and not on mere fashion or personal inclination. Now while I am convinced that this question is not a profitable one, and that it gives rise to negative results, I am willing to make some inquiry for possible answers. Let us ask then what things we might suppose would influence the style of a house. Here certainly are some of them:

a. The kind of country in which the house is to be built; flat or rolling, mountainous, wooded, or open.

- b.* Neighboring buildings, especially if of a definite type.
- c.* Local materials and traditional ways of building.
- d.* The owner's individuality and mode of life.
- e.* The architect's personality, training and predilections.

THE SITE OF THE HOUSE

The site unquestionably should have a very great influence upon the plan of the house, as Professor Osborne has most lucidly explained in the first article of this series, but it seems to have far less influence on the choice of style than one would im-



CHATEAU JOSSELYN. VIEW FROM THE RIVER ROAD



A COUNTRY RESIDENCE

CRAM, WENTWORTH & GOODHUE, Architects

On the Choice of Style in Building a House

agine. Let us for a moment conceive the site as a broad plain near a river. Some old Georgian Manor, Groombridge Place, let us say, seems perfectly suited to such a site. On the other hand, can we name any style that our amateur might have in mind that does not furnish admirable solutions of this very problem? Even so animated a style as that of the early Renaissance in France gives us Josselyn, by its rolling river, or Chenonceaux, spanning the quiet waters of the Cher. Perhaps we might generalize by saying that long level lines harmonize best with such quiet stretches of landscape and that,

with its inimitable hillside gardens such as Barncluith only to remember that the greatest charm of those places is the long level lines of their terraces rising one above another, and that Earlshall, a house that corresponds well with our imagined character, is really set down in a perfectly level place.

Thus, in the first effort to find an answer, we reach a result quite useless to our amateur. Let him get but a clever enough worker in archæological legerdemain and his house shall look well (so it might seem) in any style he is pleased to name, and on any site that he is pleased to buy. Yet we know very



GROOMBRIDGE PLACE, KENT. THE WEST BRIDGE

therefore, we should choose some style in which they predominate were it not that we are dumfounded by the thought of Azay, with its strong verticals and its agitated roof lines, looking supremely beautiful in broad meadows with the folds of the Indre wrapped about its base.

If our house is to be set upon some steep hillside, some cliffy place, surely we may find guidance in such a spot. Obviously, your quiet Georgian thing is out of keeping here. Strong upright lines, well marked parts, a vivacious sky line suggest themselves. St. Fagan's near Llandaff, is quite as it should be. Quite naturally one's mind runs off to Scotland

well that it will not, for we have seen the experiment tried too often.

NEIGHBORING BUILDINGS

That, in the choice of style, we owe a duty to our neighbors is a fact too often ignored. If buildings exist which, when our own is finished, will group with it, we must not ignore them, for in such an instance our building is but a part of the whole composition and, unless we are utterly selfish, we must seek the best result for the whole rather than for a part. In Europe this thought obtains more acceptance than among us, for in many cities, municipal regulations



BARNCLUTH, LANARKSHIRE—THE TERRACES

On the Choice of Style in Building a House

are so framed and enforced as to secure a certain uniformity of design, monotonous perhaps, but decent, orderly and quiet. Here, and especially in our suburban communities, so little harmony of style is seen that it is clearly a case of each one for himself and the devil take the hindmost.



ST. FAGAN'S CASTLE, CARDIFF, FROM THE HIGHER POND

LOCAL TRADITIONS AND MATERIALS

Had we definite local traditions in the art of building, we might make some steady advance, building in the way of our fathers but better and more beautifully. In the States of the Atlantic seaboard, there were once such traditions, but we have broken with them and the return to them must be made with conscious effort, an effort that results in our Colonial revival. But, for the most part, throughout our land there is no local way of building that rises above the commonplace. This is partly due to the fact that we are no longer compelled to use the materials that the neighborhood of the building offers. Time was, and that not a hundred years ago, when lacking water transportation, such materials had to be used. And so strongly marked is the influence of that use of local materials that, to take an example from Great Britain, one familiar with its cottages might, if dropped down at random anywhere in the Island, make from them alone a shrewd guess as to his whereabouts. Thus, if he saw such a cottage as that at Stanton, he would know that he was on that band of limestone that extends from Somerset to the dales of Yorkshire, and he might well pick out this particular cottage as a good specimen of the type that prevails in the Cotswold District. If the house were of a soft, warm sandstone, he might know that he had fallen in Cheshire or Shropshire, or Hereford. Even there, he might see half-timbered cottages of great beauty, but by the way in which the timber is used, he would be very sure that he was not in Kent or Sussex, where half-timber work equally abounds. And now let us

take as an example of the influence of material upon construction, and therefore upon style, such a Kentish cottage as that near Penshurst, and let us summarize the description of the construction of such a building given in Dawber's book on "The Cottages of Kent and Sussex." As shown in the constructional diagram, upon a brick or stone base a heavy sill piece was laid, and upon this upright storey posts, eight or nine inches square, were fixed. These at the angles were larger and formed of the butt of a tree placed root upwards, with the top part curving diagonally outwards to carry the angle post of the upper storey. On these uprights rested another large timber, a sort of sill piece for the second storey. On this in turn rested the beams of the second floor, their ends projecting some eighteen inches and carrying the overhanging second storey wall, which was constructed like that of the first. The divisions between the uprights were filled with wattles or laths and chopped straw and clay, or sometimes even with bricks, and the surface plastered flush with the face of the timbers.

Such a method of construction, direct and truthful and beautiful as it is, has defects in the shrinkage of its timbers and consequent openness to the elements, so grave that houses thus built have, in many cases, been protected at a later date by tile hanging or sometimes by exterior plastering or by weather-boarding. So that it often happens if we hunt beneath such protection, we find the original half-timber cottage intact. Such a method of construction is obviously impossible for us to-day.

House and Garden



FARMHOUSE AT STANTON, GLOUCESTERSHIRE

For were we willing to pay the cost incident to shaping the timbers by hand, we would not tolerate a leaky wall. Yet, more's the pity, we are forever making the attempt to have the semblance without the reality. We build an honest brick wall, nail strips of wood against it and plaster the space between them. What a preposterous imitation of a once reasonable construction!

Thus, I say, where a traditional style of building existed, it was modified, its evolution was assisted by the limitations imposed by the use of local materials. But how is it with us who lack a local tradition and who are no longer bound to the use of materials at hand? Modern facilities of transportation have actually made it, in many cases, difficult and expensive to employ the material at hand, so that the place where the building is to be erected has but little influence on the choice of materials and consequent development of style. To-day it is cheaper to build a house in Maine of wood from Oregon than of granite quarried within a mile, or to finish the rooms with cypress from the Gulf of Mexico than with white pine from the Pine Tree State. Such are the anomalies of the exhaustion of natural resources, of the use of machinery, of high-priced labor and of cheap transportation.

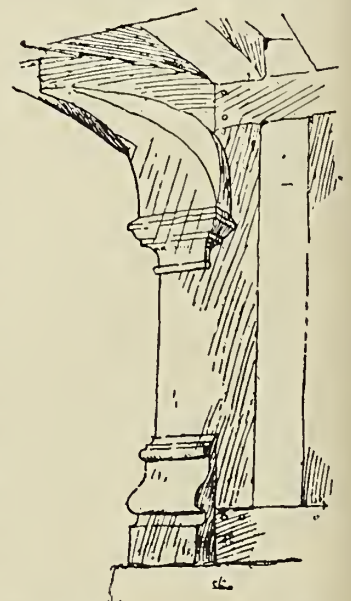
THE OWNER'S INDIVIDUALITY AND THE ARCHITECT'S PREDILECTIONS

The owner's personality and his mode of life should, of course, exercise an influence on the style of his house. If he be a man of quiet tastes, fond of home life, not given to lavish entertainment, those qualities should be expressed by a restrained, a modest domestic feeling in the treatment of the house, that it is almost impossible to express in certain

well-marked historic styles. The minor English buildings, the farm houses of Normandy, even our own Colonial houses offer starting points for such a case. But granted that the man be a millionaire, with an established position in society, or even with aspirations for it, his house must be a far different affair, suitably planned for entertaining many people, and expressed in some formal, well digested style such as that of Louis XVI. Indeed the selection of a style suitable for a million dollar "cottage" at Newport is far less difficult than the finding of the right expression for a suburban house of moderate size. The owner's training, his inclinations, too, must not be forgotten. A man with a well marked bias in favor of all French things, for example Mr.

James Hazen Hyde, would naturally choose one of the French styles for his house. One so full of enthusiasm for all things Italian as Mrs. Edith Wharton, might well be pardoned for giving her house a distinctly Italian form.

But these are exceptions. Not one in a thousand of us has any intellectual bias so strongly marked as to justify its expression in the style of his house. It is obvious that the architect's training and predilections for certain styles will, in the main, exercise a far greater influence on the house than will those of the owner. The men who achieve most by working in definite styles are those who entertain the most positive convictions that the style of their choice is without question the only right, the only logical style for our times. It is Mr. Ralph Adam Cram's firm conviction that the abandonment of the Gothic style brought about the ruin of all that was noblest in the art of architecture. It is his almost religious zeal for a revivification of that style that gives to his designs their absorbing interest. It is because Thomas Hastings believes we will achieve no worthy end unless we succeed in making our work an evolution from the French styles of the eighteenth century, and it is because



ANGLE POST, PATTENDEN, KENT

On the Choice of Style in Building a House

of his knowledge of and devotion to those styles that his work reaches so high a plane of urbanity and courtliness. It is because Mr. Charles McKim has an ineradicable conviction that it is from Italy, whether of the classical times or of the Renaissance, that we should draw our inspiration that he can clothe the needs of our own time in a garb that for dignity of manner and for perfection of proportion and of detail, sometimes equals the best of the examples for which he shows such complete devotion.

In the face of obsessions such as these, how futile it is for the owner to talk of choosing his own style. It is only when he selects an architect devoid of definite convictions that he will be confronted with the troubles which the question put to the editor presupposes. Yet in this connection another thing needs saying, and that is that the power these men have of producing work of great distinction comes not alone from their definite convictions on the subject of style, but also, and this is far more important, from the fact that each is an artist of such rare ability that even if he were set to work in an alien style he would design buildings of far greater interest than the work of most other men.

And now the editor insists that, to end this rambling discourse, I shall sum up all by a statement of my own opinion upon the choice of style. The only

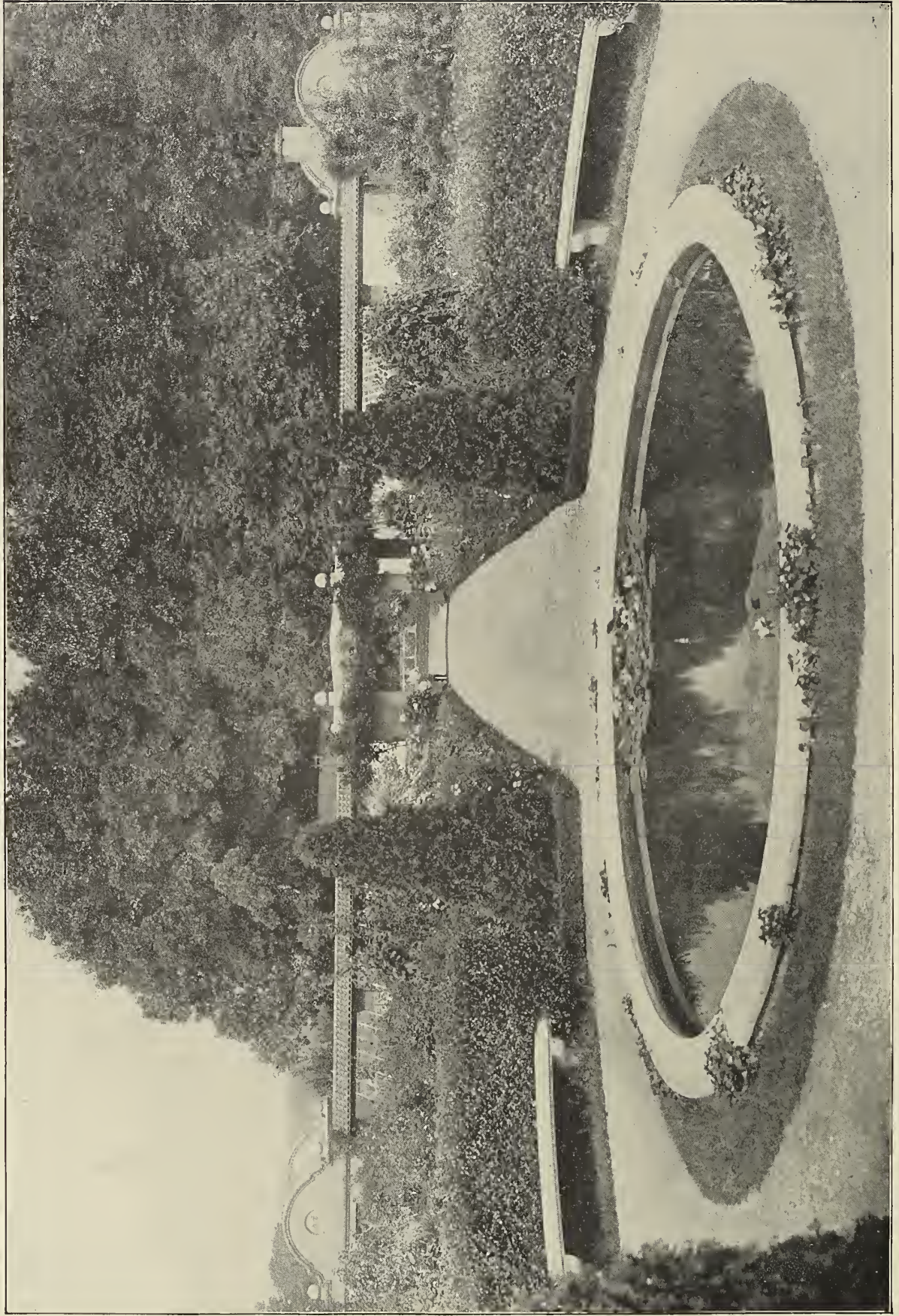


SWAYLANDS, PENSURST, KENT

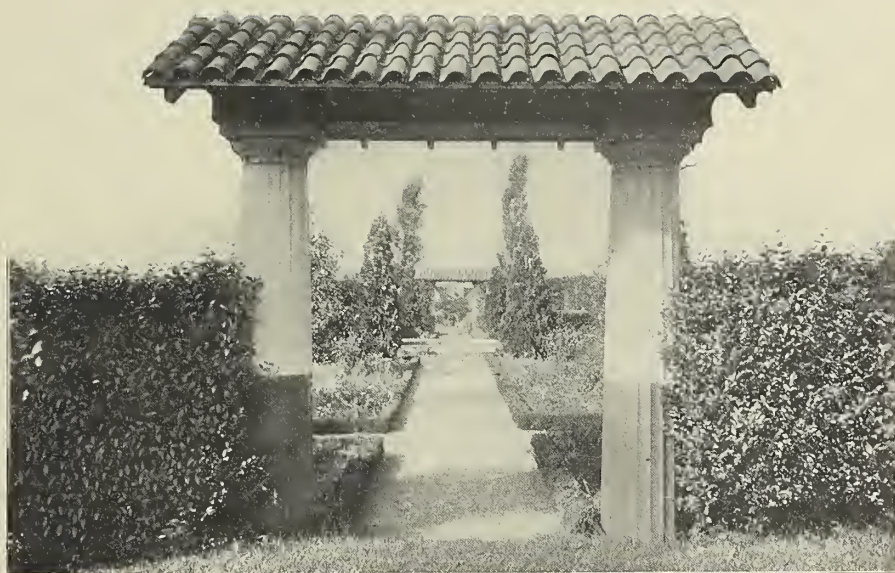
thought that comes to me is one that stands for an ideal difficult of realization for men of this generation. It is precisely the one I put forth a while ago, by saying that if the plan be a simple and direct expression of the needs and life of the people who are to live in the house, and if the elevations are a logical outgrowth from and a reasonable expression of that plan, and if the whole be made beautiful and vocal of its time and place, then the building will have style in the best sense and will need none of that exotic or archæological style that is the bane of so much of our work to-day.



ALBERT KELSEY, Architect



POOL IN CENTRE OF GARDEN



Gates at Ends of Cross Path

GARDEN AT "CHELTEN"

NEAR JENKINTOWN, PENNSYLVANIA

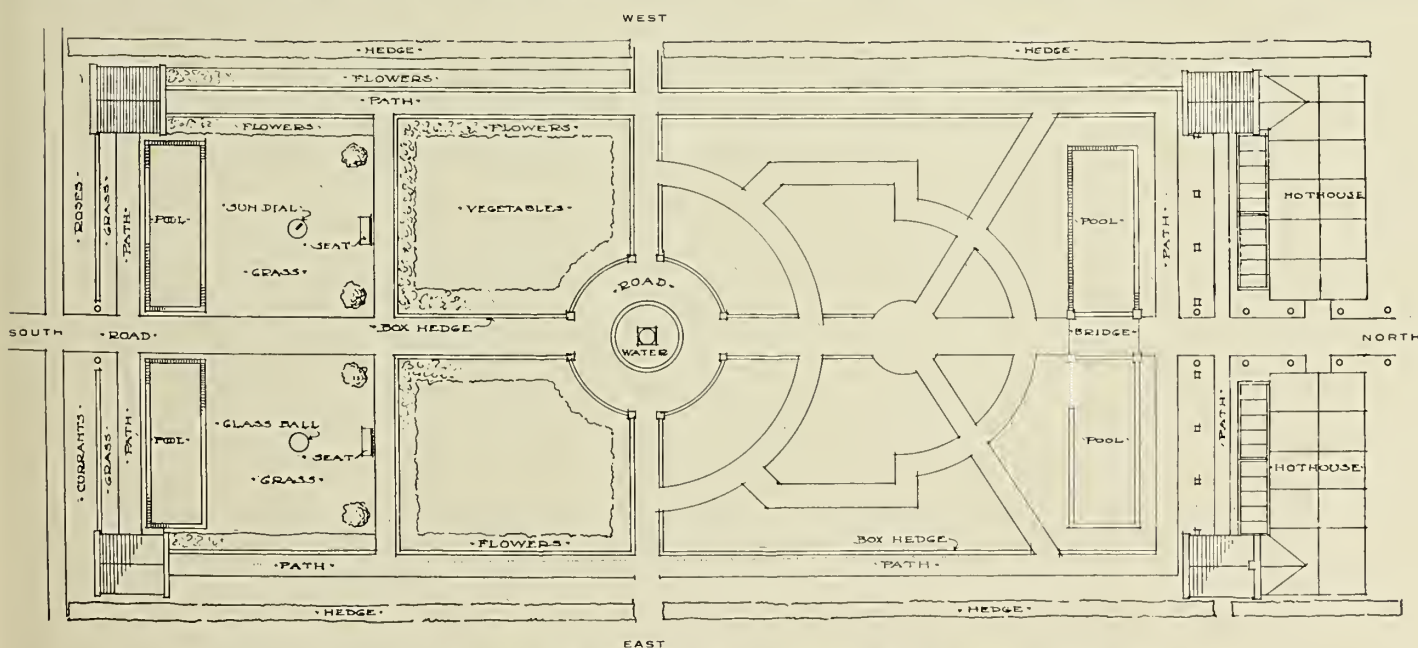
THE garden at "Chelten," in Abington Township, Montgomery County, Penna., is merely a shell of what I believe would have eventually developed into an exceedingly interesting plan. As it stands, the only completed work is the four garden-houses at the corners of the garden—two connected with a wall and two with a series of columns.

It was intended that the two longer sides of the garden now enclosed with the small privet hedge, should consist of walls or trellises, or perhaps, a combination of both. At the end, in front of the series of

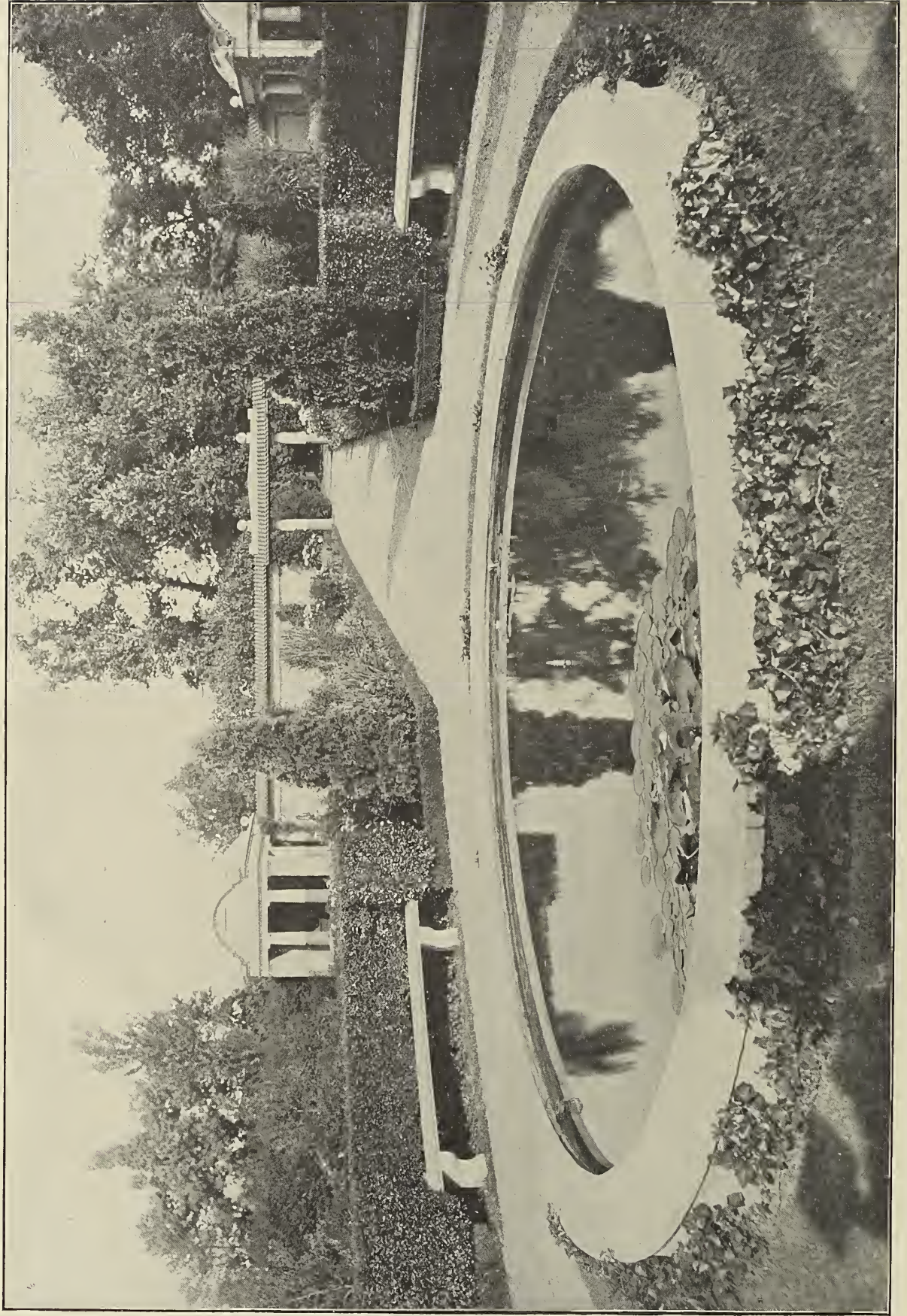
columns and in front of the connecting wall, there were to have occurred rectangular pools. But as it is, the soil has never even been graded, and the planting along the paths and around the central fountain is only of a temporary character.

The two garden-houses connected with the wall at the east end of the garden in front of some large trees, are open on two sides, paved with brick, and contain some benches and tables. These houses were intended for use as tea-houses.

The other end of the garden presents a very interest-

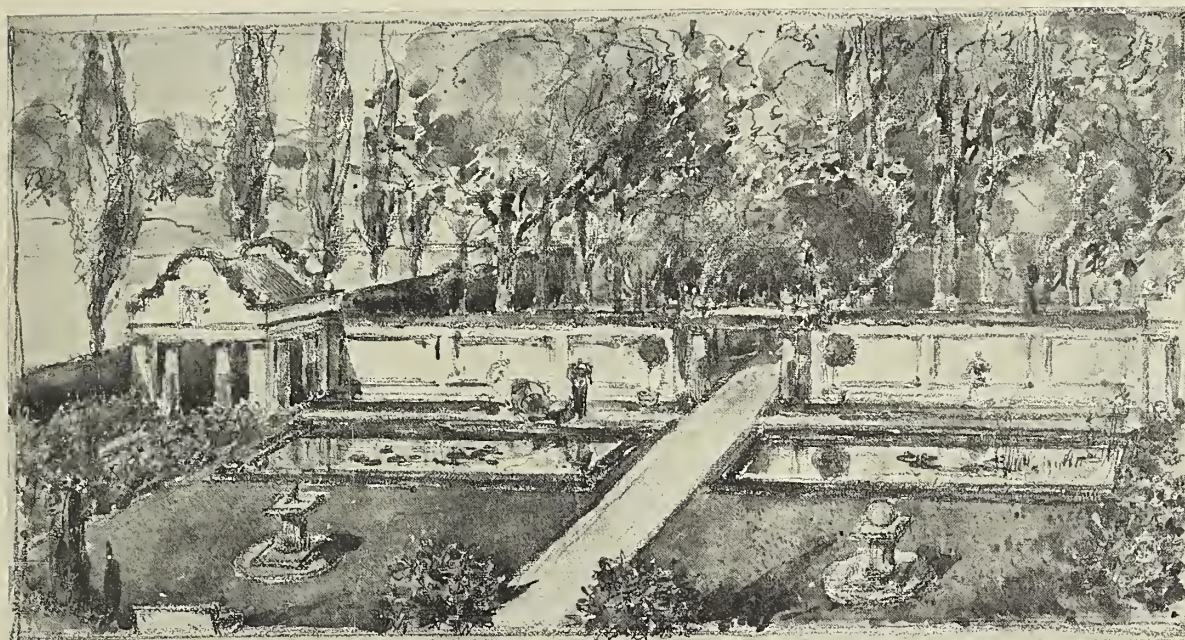


SHOWING TWO HALVES OF ALTERNATE DESIGNS FOR PATHS AND POOLS

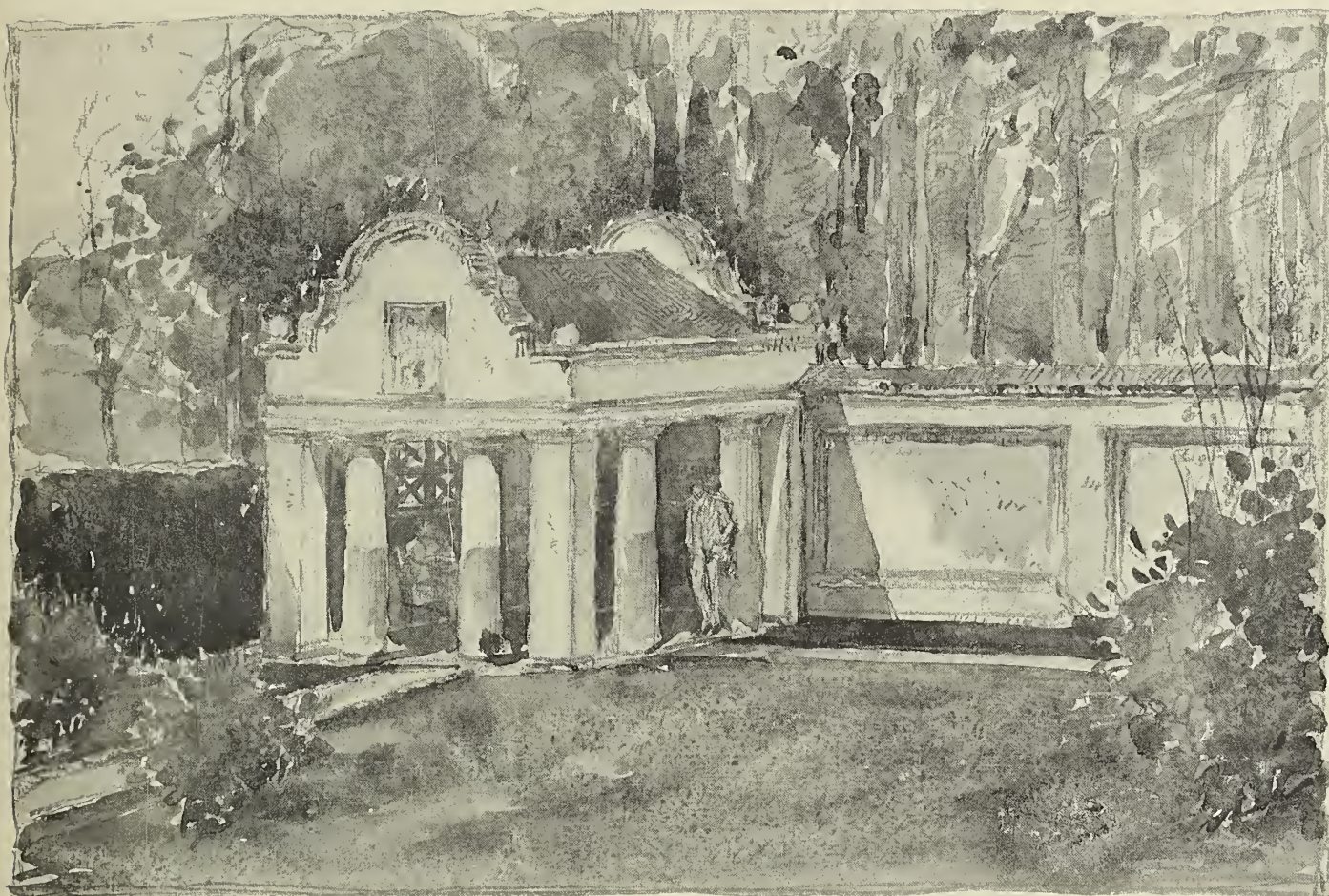


POOL IN CENTRE OF GARDEN

Garden at "Cheltenham"



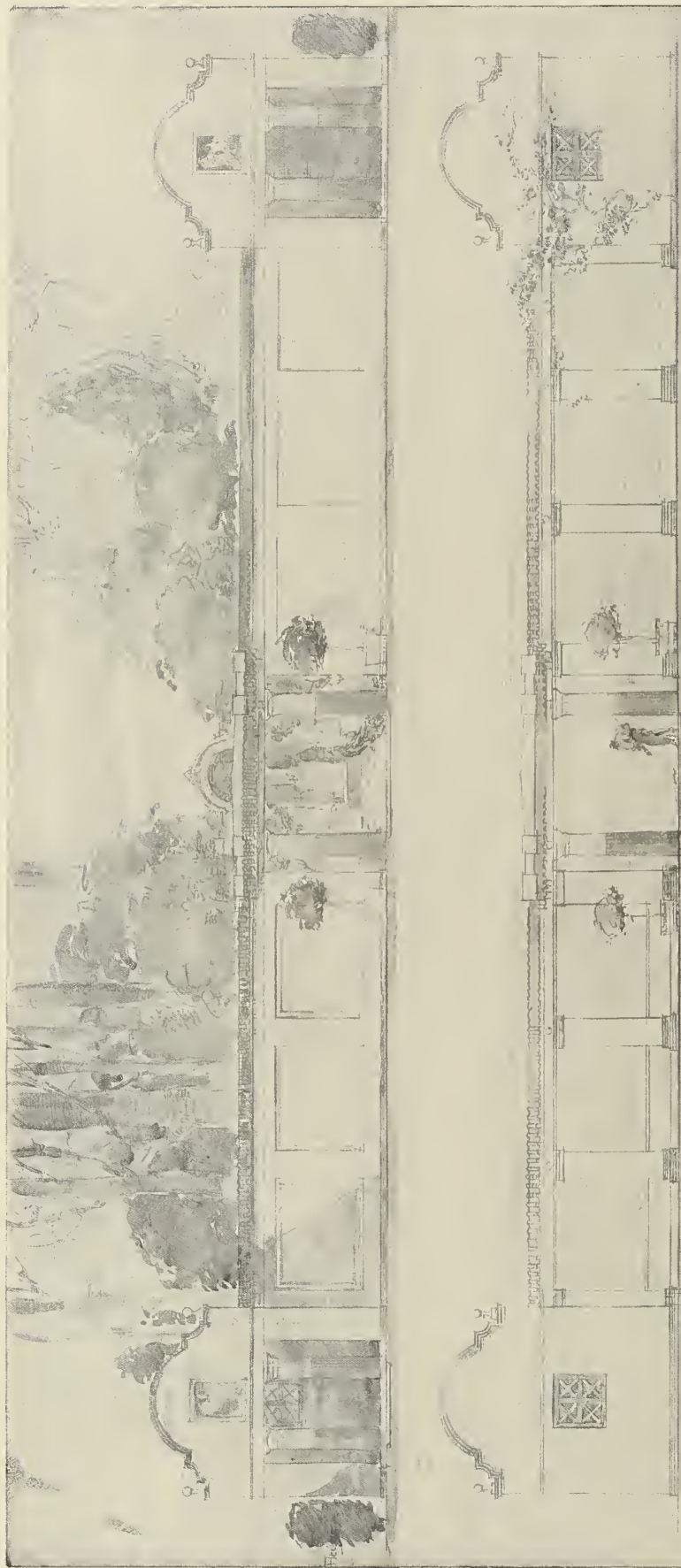
SOUTH END OF GARDEN



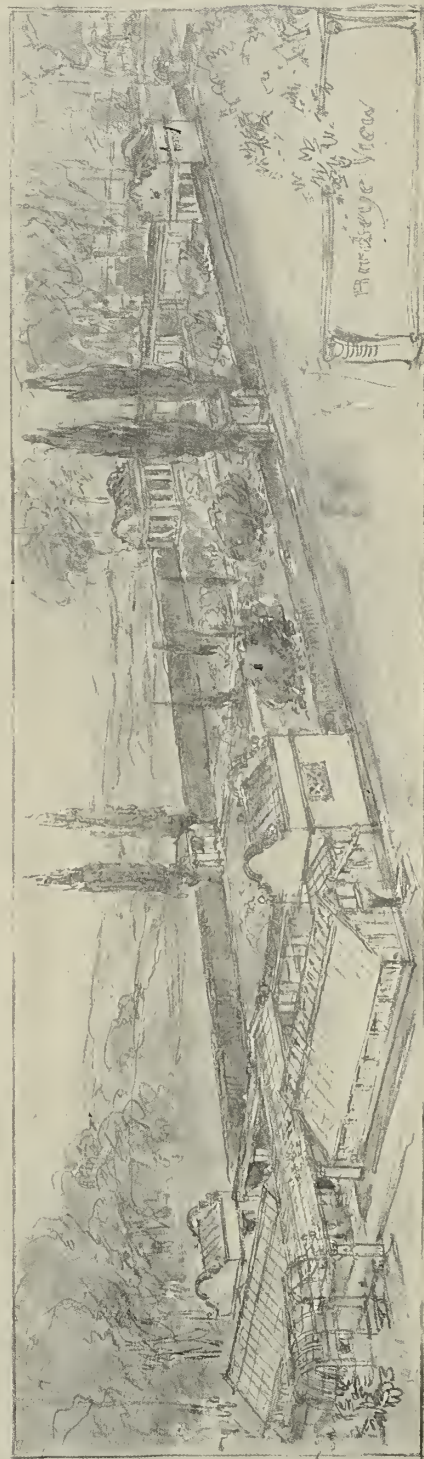
ONE OF TWO GARDEN-HOUSES AT SOUTH END OF GARDEN

ing attempt to arrange a boiler-house and potting-shed at one end and a root-cellar and storage-house at the other end of a greenhouse. These to be connected by a series of columns, all with a view to screening the greenhouses from the rest of the garden.

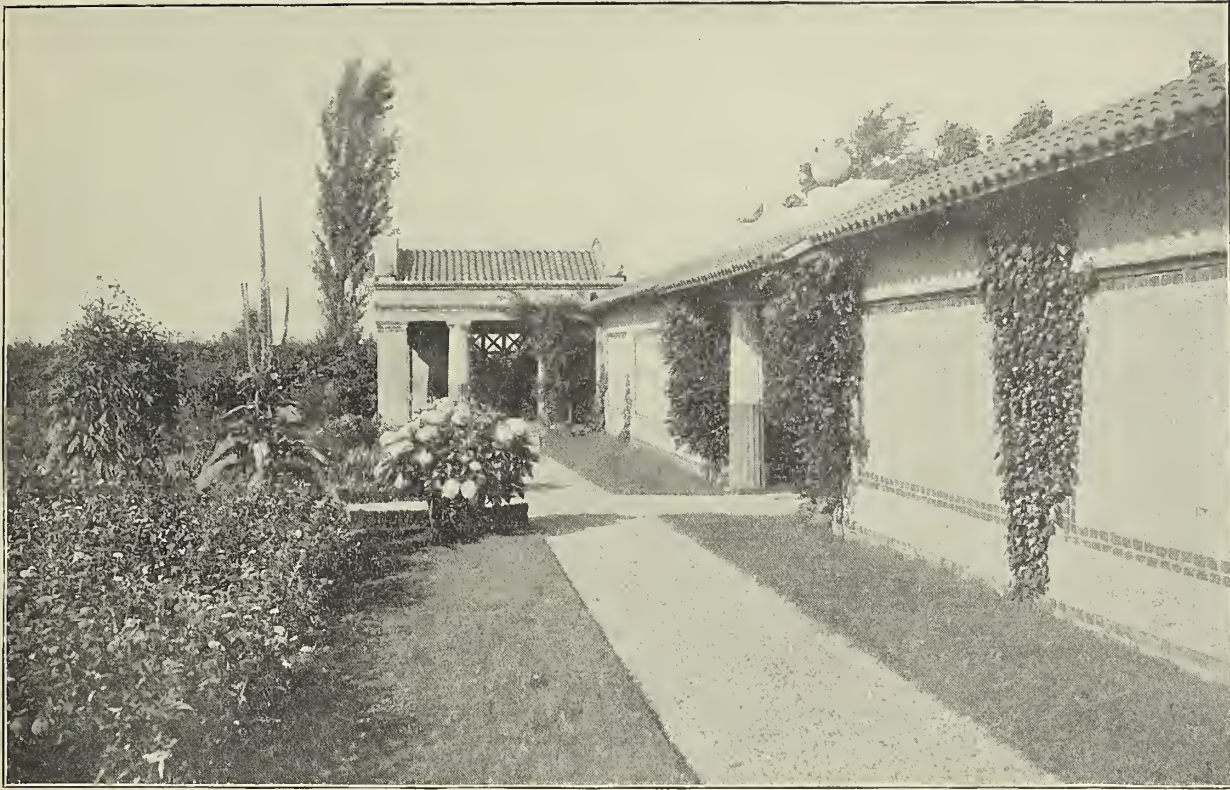
The wall and the square columns are built of cheap brick and then pebble-dashed, the mortar being rather yellow and the white pebbles being put in afterward, giving a very pleasant texture. The roofs are of "S" tile and about the color of a salmon brick. It



Proposed Garden,
for Beauve Florie Lodge
at Benthams. — Hope & Co. Arch.



Garden at "Cheltenham"



SOUTH END OF GARDEN

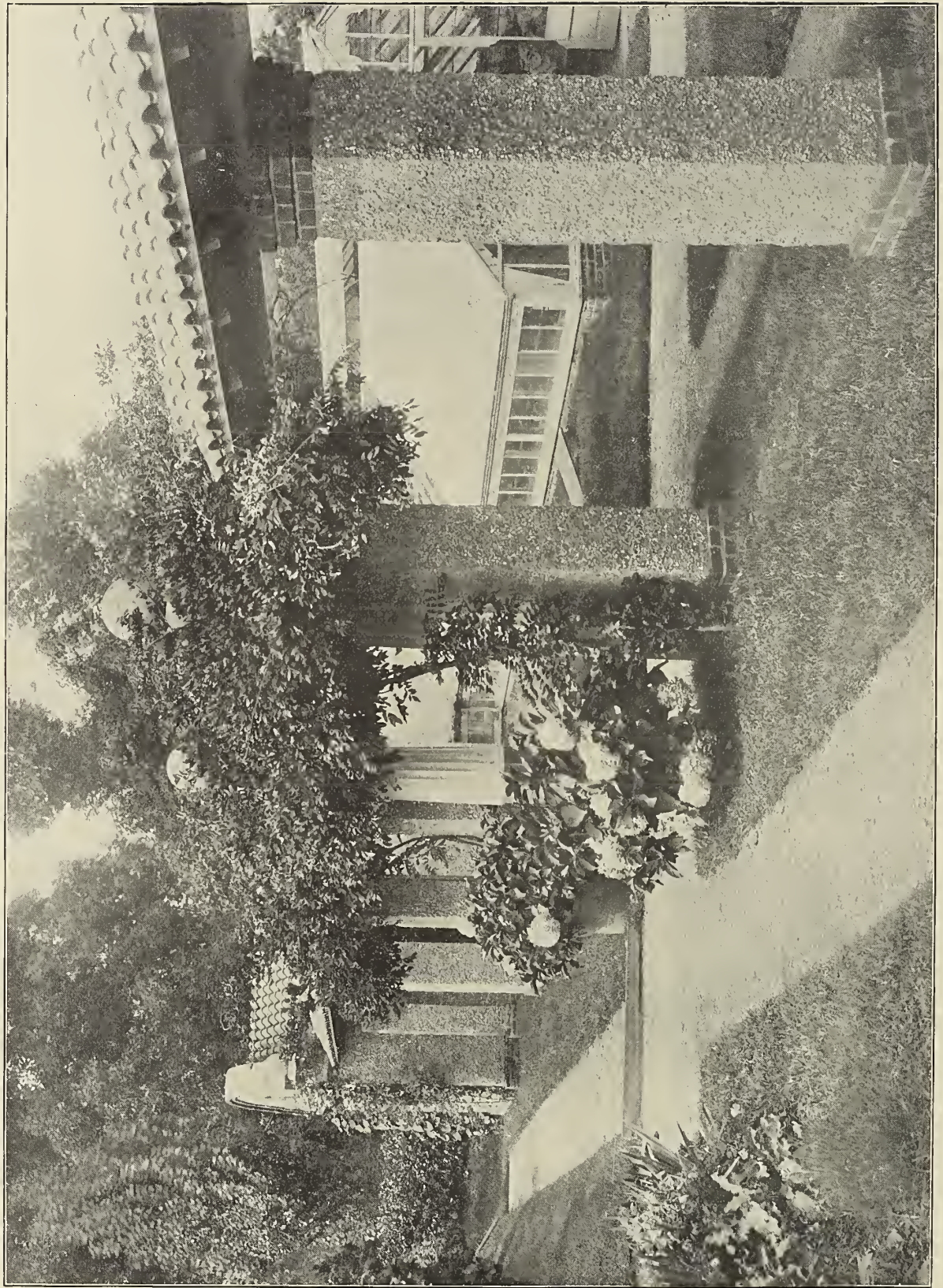


SOUTH END OF GARDEN FROM REAR

was intended to decorate the wooden Doric columns and the other woodwork about the buildings and screen rather elaborately, and on a basis of the Pompeian traditions. This, however, as will be seen, was never carried out.

It is only fair then to judge this work of Mr. Eyre's

as parts of a whole which has never been completed and which in their present condition bear very little relation to each other. As it stands, the color in the walls and roofs, which is in perfect harmony, adds very materially to the charm of the general proportions of these ends of a proposed garden. C. L. B.



NORTH END OF GARDEN AND GREENHOUSES—"CHELTEN"

FREDERICK LAW OLMSTED AND HIS WORK

AN APPRECIATION BY JOHN NOLEN, M. A., (HARVARD)

FREDERICK LAW OLMSTED was born at Hartford, Connecticut, in 1822, and died near Boston, Massachusetts, in 1903. In his long life

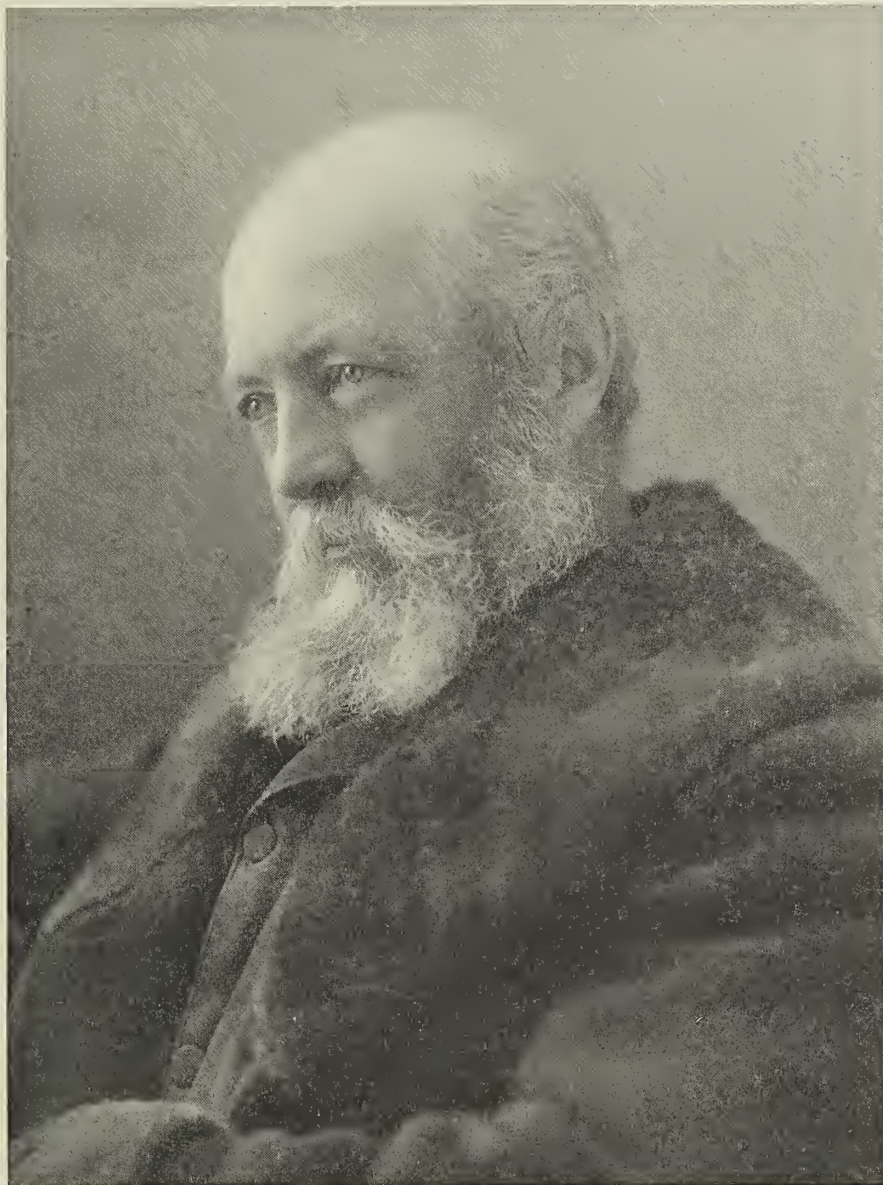
of over eighty years he played many honorable parts. He was distinctly versatile. In him the old type of artist of the Italian Renaissance, the man who could do many things and do them all well, was again illustrated. He was a successful farmer in his young manhood, gaining by close observation in that occupation a knowledge and love of nature which were of inestimable value to him later. He served the nation faithfully, effectively and unselfishly during the Civil War as General Secretary of the United States Sanitary Commission, displaying masterful executive ability. In the decade from 1850 to 1860, he wrote books of travel describing accurately and vividly what he

saw in Europe and in this country, books which remain to this day the most interesting authorities on the social, political and economic conditions of that period. Posterity, however, will remember him best and longest, not for these services, great though they were, but for his work as artist in the field of landscape design. Indeed, he has been called by so eminent a critic as Professor Charles

Eliot Norton "the greatest artist that America has yet produced."

Mr. Olmsted's contribution to landscape archi-

tecture was of a double character, his writings and his designs. His professional reports upon parks and other subjects, his letters and his addresses are, indeed, classic. They are the best expression yet made of the fundamental principles that govern good design out-of-doors, yet far more important than what he said is what he did. His works of landscape design are great in number and wide in variety. They include over eighty public recreation grounds, besides many designs of a semi-public or private character. They extend from Massachusetts to California, from Montreal to North Carolina. They are national in range. In character they are likewise broad, including almost



FREDERICK LAW OLMSTED Born 1822 Died 1903

"What artist so noble has often been my thought, as he who with far reaching conception of beauty and designing power sketches the outline, writes the colors and directs the shadows of a picture so great that nature shall be employed upon it for generations before the work he has arranged for her shall realize his intentions." (From "Walks and Talks of an American Farmer in England" by Frederick Law Olmsted, written in 1851, long before he had any idea of becoming a landscape architect.)

every conceivable problem of design and dealing with city, country, seashore, mountain and lowland sites. His main work, however, was upon parks, and the American parks of to-day are nearly all the work of his mind and imagination. In the design of large parks his main purpose was to provide scenery, what he called, "pleasing rural scenery," and to exclude rigorously everything



HOME AND OFFICE OF FREDERICK LAW OLNSTED, BROOKLINE, 1880-1903

that was incongruous or inconsistent. "The root of all my work," he said, "has been an early respect for and enjoyment of scenery, and extraordinary opportunities for cultivating susceptibility to its powers. I mean not so much grand or sensational scenery as scenery of a more domestic order—scenery which is to be looked upon contemplatively and is productive of musing moods."

The present series of articles will describe and discuss five designs of Mr. Olmsted's: (1) Mount Royal, Montreal; (2) The terraces and landscape work of the United States Capitol; (3) The Schlesinger Place, Brookline, Massachusetts; (4) Franklin Park, Boston; (5) Biltmore Estate and Biltmore village. These five designs are as representative as any five that could be selected, and yet they give but a partial and inadequate idea of this gifted man's work, for each of his creations is distinctive, each presented some new problems to solve or some new solutions to old problems. For the sake of clearness and easy comparison, these essays will describe first the pre-existing conditions, then the controlling

purposes of the design, and, finally, the means that Mr. Olmsted employed to realize his purposes.

Frederick Law Olmsted never lost sight of the limiting and directing force of existing natural and social conditions. His eye was quick to observe, and his mind firm to hold them. The sure foundation for this part of his professional practice was laid in his close observation during many years of a wide range of natural scenery, and in his sympathetic study of the habits and needs of men. In innumerable ways these conditions modified and affected the aims that he set before himself as well as the means that he adopted for attaining those aims.

The purposes that controlled his designs are all marked by certain characteristics. They are, first of all, definite. His intention is always obvious, clear. Secondly, they aim to serve convenience, the very practical and, often it might seem, commonplace ends for which the design exists. Finally, without sacrifice of utility a peculiar charm, an appropriate beauty is incorporated, and the great artistic end of unity secured. Moreover, the purposes show a

Frederick Law Olmsted and His Work



A NEARER VIEW OF THE HOUSE

singular appreciation of the distinctiveness, one might say the uniqueness of each particular problem. If Mr. Olmsted's designs are compared one with another, no two will be found to be in any sense similar.

The means employed are as definite as the purposes, and they are always adequate. They are sometimes original, oftentimes ingenious, always practical. They recognize the conditions. They achieve the purposes. They serve at once utility and beauty. In fact, they illustrate that the reasoned adaptation of a design to the conditions is the natural and surest foundation of beauty. While first regard is given to the large elements of a design, the details are never neglected.

The study of Mr. Olmsted's life and professional methods cannot fail to be fruitful to the designer of to-day, no matter what his medium of expression may be. He will find that no fad or fashion ever possessed this well-balanced artist. He was broad and catholic in his taste and unbiased in his outlook. His work never became dull to him, never mechan-

ical. It was characterized by versatility, public spirit, common sense, imagination and genius—genius that showed itself plainly in his extraordinary understanding and extraordinary application. It is not surprising, therefore, that in the profession of landscape architecture, to which the best half of his life was patiently given, that he was an unrivalled master, indisputably the foremost landscape designer not only of his own time, but of all time. He, more than any other man, created the one great art that this country has developed, an art peculiarly suited to use American conditions in a high service of the American people. At no other time and in no other country could he have served so well both the cause of his art and the cause of humanity; nor could any of his fellow-countrymen have approached him in his special qualifications for his task—qualifications, whole foundations and development I have endeavoured to set forth. We may now turn our attention to his executed work, first considering the famous mountain park at Montreal.

I.—MOUNT ROYAL, MONTREAL

A MOUNTAIN PARK

TO understand and appreciate this design, its controlling purposes and the success or failure with which they were realized, one must have at least a general impression of Montreal and its surroundings. The city is situated on an island of the same name, on the west side of the St. Lawrence River, at its junction with the Ottawa. It is built upon a series of terraces, the former levels of the river or of a more ancient sea. Behind these rises "Mount Royal," a mass of trap rock, thrown up through the surrounding limestone strata, to a height of over 700 feet above the river. From this mountain the city derives its name. The older portions of the municipality lie upon the slope of the hill; the newer occupy the more level ground surrounding the mountain. Located at the highest point of ocean navigation, with the broad waters of the St. Lawrence as foreground, and the richly wooded slopes of the mountain as background, the city of Montreal presents a most picturesque and pleasing appearance. The views, enhanced by the commanding elevation of the moun-

tain and the wide expanse of the valley of the St. Lawrence, are of great variety and beauty. A well-cultivated and wooded country, watered by the Ottawa and St. Lawrence, stretches away on either hand, being bounded on the west by the lakes of St. Louis and the two mountains, and on the distant horizon by the Laurentian Hills, the Adirondacks and the Green Mountains of Vermont. On the east the city occupies the slope toward the St. Lawrence River, which has here a breadth of one to two miles.

The topographical conditions of the mountain itself in 1890, before Mr. Olmsted's design was carried out, can be briefly described. It was called "Mountain" simply by courtesy, for its crown is only 735 feet above tide-water. Yet, relatively, in comparison with the broad, flat river valley with which it rises in strong contrast, it is mountainous in its impression. The top of the mountain was a broad and very moderately broken table-land. Immediately below it was a rocky and rugged section that received later the title of "Upperfell." Lower than the "Upper-

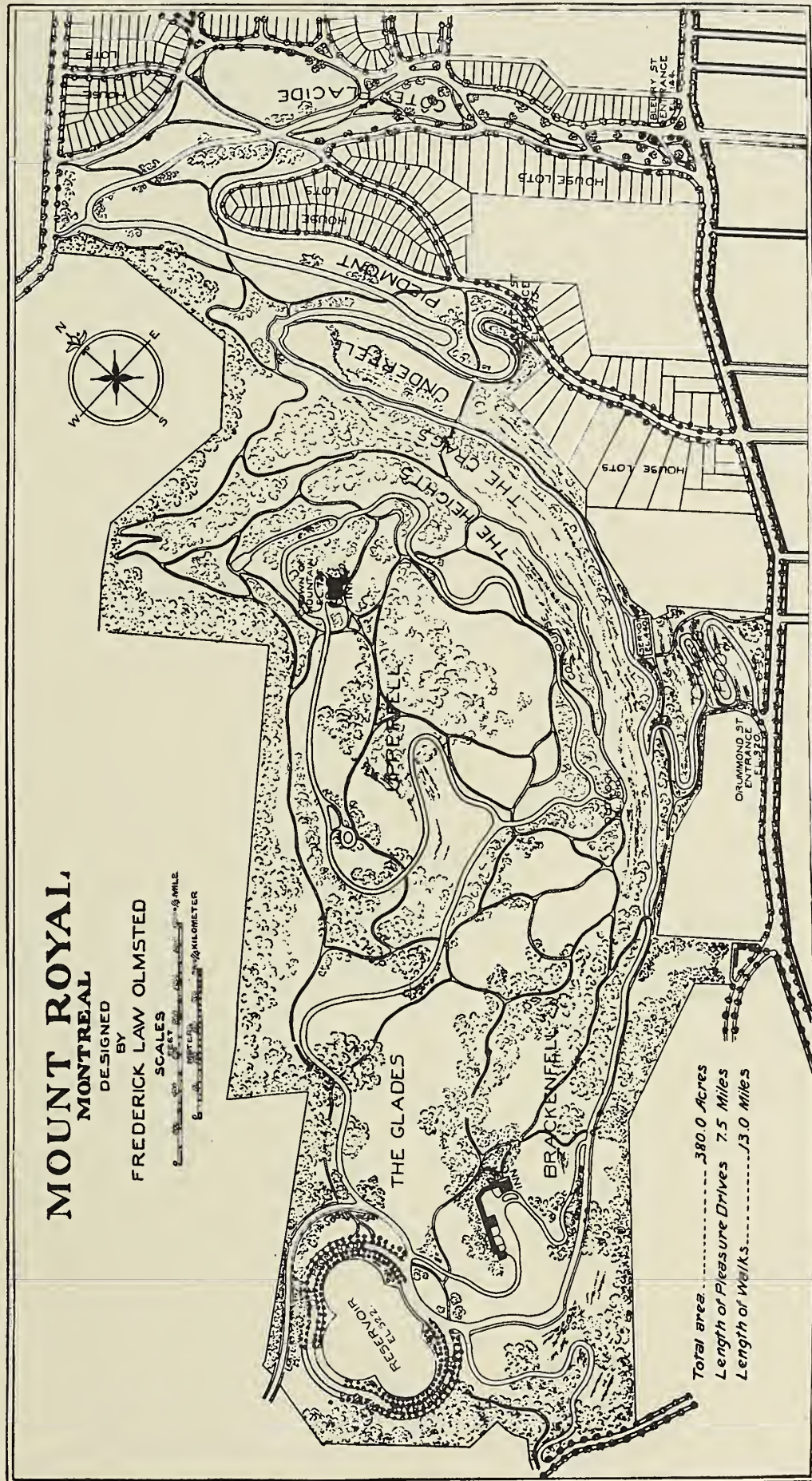


JUST OUT OF CRAGS' FOOT

The roads of Mount Royal seem to fit a course marked out centuries ago by Nature herself. Typical "Fell" land to the right

Mount Royal, Montreal

fell" to the east, toward the city, was a broken, rocky declivity, designated later "The Craggs." Below "The Craggs," to the northeast, was the "Underfell," again rocky but not so steep. On the slope, below the "Underfell," there was a district, "The Piedmont," lying between two low but well-defined ledges of rock, and including a smooth field of fair soil. Still proceeding down the mountain to the northeast, there was a large district of gentle slopes with less and less of protruding rock, a district that, in contrast with the steep and rocky land above, seemed almost meadow-like. This received the name of "Côte Placide." To the southwest of the crown of the mountain, below the "Upperfell," there was a long, gentle depression of the surface, extending from the south end of "The Craggs" west to the "Côte de Neige" cemetery. Here the ground was smooth, and little wooded; the soil alluvial, fresh and peaty. It was, indeed, a natural mountain meadow, later appropriately named "The Glades." On the other side, to the south, was the so-called "Brackenfell," again steep, broken ground, much overgrown with bracken. These then were the seven main topographical divi-



PLAN OF MOUNT ROYAL, MONTREAL



VIEW TO THE SOUTHEAST FROM THE CROWN OF THE MOUNTAIN

The picturesque city of Montreal in the foreground, the valley of the St. Lawrence beyond, and in the distance the noble lines of the Green Mountains of Vermont

Mount Royal, Montreal

sions of the mountain. They covered an area in all of about 400 acres.

With this general notion of Montreal and the topographical character of the mountain in mind, we can proceed more intelligently to a consideration of the controlling purposes and aims of the design. The first step was to determine what the conditions made impossible or inappropriate. The mountain being chosen as the site of the park, it would become impossible as well as inappropriate to try to make anything else than a mountain of it. The delusion

The new work of art was to be consistent with Nature's but to have more, not less, of poetic charm.

What then was to be the main purpose of the design? It was to idealize such mountain beauty as already existed, to remove its defects, to enhance its strength and majesty, to give more of unity and more of harmony to the whole effect; and, at the same time, to provide adequately all those human conveniences without which the full realization of the purpose of the mountain as a public park would have been impossible. Therefore, to quote the



DIFFERENT WINDING ROADS OF CRAGS' FOOT

"Refinement in such matters—roads and their grades for example—is the main part of landscape architecture"

that flower beds are the required and proper furniture of a public park was at once dismissed. Nothing inconsistent with mountain dignity, serenity and strength was to be retained or unnecessarily introduced. On the other hand, the mistake of "letting alone" simply on the ground that what is, is natural, was to be avoided. For Mr. Olmsted knew that by intelligent interference other effects equally natural and much more beautiful could be obtained. The old work of Nature can seldom be preserved just as it is, but it suggests what is to be attempted.

landscape architect himself, "the grounds of the mountain were to be subdued in character and operations for their improvement were not to be ambitious but intended: (1) To relieve the surface of the mountain of the accidental and transient condition through which it has at present an unnecessarily desolate and melancholy aspect. (2) Without destroying the essential picturesqueness of its natural features, to add a greater beauty of foliage. (3) To subordinate and as far as may be practicable, obscure with suitable natural objects the constructions



A BORDER OF HARDY FLOWERS AND ANNUALS IN MOUNT ROYAL

If properly placed such a use of flowers is not inconsistent with the beauty of a landscape park

necessary for the convenient use of the ground. (4) To avoid everything that is out of character with the genius of the place. (5) To hold attention in directions where the finest views will be seen to the best advantage and to furnish them with more harmonious and better composed foregrounds." That these purposes were wisely conceived and adequate seems beyond question. They show just the right regard for the conditions, both of the city and the mountain, a proper consideration for the needs of the people, and for those fundamental principles of art which must underlie every successful design.

The first law of a work of art, either on canvas or on the earth, is to be a whole. This is the most fundamental principle of landscape design, as it is of all design. Without it unity is impossible. But unity does not mean monotony; unity should be combined with harmony and a controlled variety. Mr. Olmsted applied this principle to "Mount Royal" in a marvellously successful manner. He recognized and developed the distinctive character of each topographical division and then merged

them harmoniously together in one consistent mountain, one unified landscape effect. In the case of "Mount Royal," he achieved this result more perhaps by his treatment of vegetation than in any other way. He selected as the materials for new planting, or the plants to be saved, those which nature unassisted might have selected, but he emphasized such selection, idealized it and made it more apparent. For example, we find in one of his letters instructions to plant from 2,000 to 5,000 indigenous trees, such as beech, ash, hop-hornbeam, yellow, black, gray and canoe birch, elm, butternut, moosewood, basswood, cornels, and thorns; and such hardy native shrubs as sumachs, choke-cherry, witch-hazel, viburnums, alders, shadbush, button-bush, clethra, and purple-flowering raspberry; and all the native vines and creepers, poison ivy only excepted. For "The Craggs" he recommended that trees of a low and compact sort be chosen, and that the native growth of low shrubs and particularly of vines, brambles and bracken be encouraged and supplemented. All the rocky land which he calls the "Fells" was to be

Mount Royal, Montreal

treated as forest with numerous openings. The natural growths of maples in the lower parts and pines and birches above were to be left. The mountain meadow called "The Glades" was to have no planting, except such as was necessary to secure a more pleasing appearance to the bordering woods. "The Piedmont" was to be planted with groups of lowland trees, and with underwood to obscure the poorest rocky parts. Here trees of each group were to be of one kind, and the adjoining group not too dissimilar, the object being to obtain a softer charm enhancing by contrast the characteristic quality of the fells and crags. The district of gentle slopes below "The Piedmont," called the "Côte Placide," was to represent the opposite note to the necessary sternness of the "Upperfell." It was, moreover, to form a rich, open and consistent foreground to the views down the great valley from the mountain height, and the planting at its boundary was to obscure somewhat the buildings in the adjoining quarter of the town.

In addition to such intelligent planting as that described above, plants in general were to be so selected as to increase the apparent height of the mountain itself. This was a great artistic idea. In the lower and less rugged parts the predominant trees were to be such as attain their most perfect character only under conditions still lower, more fertile and softer. On the other hand, in the most elevated, exposed and Arctic regions the predominating trees were to be those that occur naturally in even *more* trying situations—certain pines, for example, with firs associated. Between the crown of the mountain and the lowlands, trees were to be used that were characteristic of the different intermediate altitudes. And so the mountain would appear more mountain-like and, at the same time, gain a natural and appropriate variety. That all of this is supreme art, free from fault of omission or commission, needs scarcely to be said.

As with all public parks, the question of boundaries was one requiring knowledge and good judgment. "Mount Royal" being a mountain, it was not possible to establish boundaries that would make its landscape self-contained

in any complete sense. This is one of the objections that might reasonably be made against the selection of such a tract for a city's "country park." For the purposes of an outlying reservation, it might serve admirably, but as a more or less immediate relief from the sights and sounds of the city it is not so well adapted. The two principles that Mr. Olmsted laid down for establishing the boundaries of "Mount Royal" are absolutely sound. They were: (1) that the boundaries should be such as were suggested by the topography. (2) That they should be so determined that a good, broad road of easy grade could everywhere follow them. These principles were reiterated with clearness and force and their importance insisted upon, especially for the future. But it is to be regretted that they were not followed, partly for lack of money to buy the necessary property, and partly because the rectangular system of streets and roads that prevailed in Montreal, a system that ignored grades completely, made the natural boundary road for the park more difficult to secure.

Mr. Olmsted's consummate skill as a landscape architect, as well as his interest in humanity, is nowhere more evident than in his provisions for public comfort and convenience—in designing roads and walks, seats and shelters, inns and so on. In all these there is a nicely balanced two-fold purpose: to make all such provisions adequate and straightforward, but at the same time to unite them with the design in such a way as to preserve the beauty and



CHARACTERISTIC VIEW OF THE NATURAL WOODLAND OF MOUNT ROYAL
ENHANCED IN ITS BEAUTY BY ART

House and Garden



TYPICAL SCENERY OF THE UPPER FELL

Rocky land treated as forest with numerous openings

unity of the whole. His position with regard to such matters is given unmistakably in the following quotation from his report: "Never for one moment forget that the artificial features of a design are not objects to be desired in themselves, that they are rather the impedimenta of the undertaking. Bear in mind that it is in the earth, the rocks, the soil and what the soil, by the skillful adaptation of means to well-chosen ends, shall be made to produce and support, that the essential value of this property is to consist. These are the meat and drink of the entertainment, to which the roads and walks and buildings are as knives and forks."

But the art of the man is shown to a greater degree in the treatment of roads and walks. In the design of these he draws heavily upon all the practical skill, upon all the artistic taste and knowledge that he possesses. His own point of view, with regard to roads, is faithfully illustrated in the two quotations from his correspondence that follow: "It is not the business of the landscape architect to furnish plans for roads simply as roads, but for roads as works of landscape improvement." In another letter to

the Royal Commissioners he writes: "Refinement in such matters—roads and their grade, for example—is the main part of landscape architecture." Mr. Olmsted recommended a single main approach road, and that on the east side, and but one main drive up the mountain. This drive was to serve a three-fold purpose: (1) To put all parts of the property very closely under contribution to the driver's pleasure. (2) It was to carry the visitor to such a succession of points that each characteristic variety of scenery could be enjoyed and distant views obtained in every direction. (3) It was to offer all practicable directness between different parts of the mountain, and especially between lower and higher parts. In realizing this three-fold purpose the central parts of the park were to be left unbroken, proximity to boundaries avoided and good curves and good grades secured. An examination of the plan, and more especially, a visit to Mount Royal itself will show that all these purposes were well realized. As to grade, Mr. Olmsted lays down the requirement in these words: "A pleasure road in passing over broken and undulating ground should avoid a perfect monotony

Mount Royal, Montreal

of grade. Its inclination should be such that a good horse, with a fair load, can be kept moving at a trot without urging in going up hill, and without holding back in going down. How practical! How untechnical! The Mount Royal road, mountain road though it is, meets these requirements fully. Its average grade is one in thirty-seven; its maximum grade, occurring but twice, one in twenty. The surface of the drive is everywhere slightly below that of its immediate borders, and the borders are graded in such a manner that the road seems to fit a course marked out centuries ago by Nature herself. But there is advantage and justice in holding back something of importance from the drive, something that can be enjoyed only by the pedestrian. Therefore, the walks were designed to traverse all parts of the park even more completely than that of the drives, and to offer even greater facilities for pleasure seeking. This successful meeting of the various and conflicting requirements of roads and paths evidences the firm possession of fine skill and great art.

In the words of Mr. Olmsted, "the views from Mount Royal surpass in expanse, beauty and variety those of any of the common resorts of tourists on the Continent." This may readily be true. There is an air of distinction about Montreal itself, due perhaps to the comparative unobtrusiveness of commonplace commercial buildings and to the prominence of a large number and variety of spires and towers of architectural excellence and historic interest. Beyond the city one can see from the mountain the St. Lawrence and the Island of St. Helens and the great Victoria Jubilee Bridge, and on the other side

a range of impressive hills. In the distance to the southeast the Green Mountains are visible, and to the southwest the Adirondacks. To command these grand views was an essential part of the design for which Mr. Olmsted made provision, and in discussing such provision he notes discerningly that grand views count for most when they are enjoyed as successive incidents of a sustained landscape, to each of which the mind is gradually led up. This means the substitution of a constantly expanding and developing scene, like the plot of a well-written play, in place of the more easily obtained and much less meritorious, sensational and spectacular effects.

The final test of "Mount Royal" as a public park is the one that Mr. Olmsted himself put above all others—the provision of charming natural scenery. The controlling purposes never lose sight of this end. Such compromises with ideal beauty as were made were few, and they were absolutely required for necessary, practical ends. Without them the park could not have been easily and constantly used. And so, on this supreme test which includes in a sense all the others, the creation of the park and the character of the design are amply justified. "Mount Royal" is, without doubt, one of the most successful designs in the history of landscape architecture. And why? Because the conditions were understood and appreciated and made the basis of the improvements, and these improvements are but the application of a new and original manner of old art principles. The result is a public park that is convenient and beautiful, and that becomes more and more satisfying each year.



A Tyrolean Courtyard

WINDOW-BOXES—THEIR UTILITY AND BEAUTY

BY IDA D. BENNETT

THE charm of the clambering rose and trailing vine has been written and sung from the time when vines first climbed and twined down to the present day, but the charm of the window-box has been strangely neglected, though Gretchen smiles ever from her flower-draped balcony in German song and story; but the outside window garden is a much neglected field in American floriculture. Some day I hope to see some artistic architect awake to the possibility of the well-constructed and stocked window-box and incorporate it in the plans of his houses; certainly its possibilities are great, not alone for the adornment of the exterior of the dwelling, but also for the beauty they add to the interior.

The beautifying effects of growing plants in the living-rooms has long been recognized and dwelt upon by writers; indeed, it would be an exceptional novelist who would construct a story of home life and fail to surround her heroine with flowers, but as yet she has failed to grasp the significance of the window-box.

Beautiful as potted plants and cut flowers are in the house, their presence immediately outside and

underneath the windows is far lovelier; there their manner of growth is in a measure concealed and only the beauty of flower and foliage, supported as though by some mysterious agency, remains. The window frames them, the sky and shrubbery afford Nature's own background, and the whole becomes a picture, ever changing, ever new and always beautiful.

But we need not wait for the appearance of the architect who shall lead us in the quest, however gladly we may hail him when he comes, but may begin in a humble way to prepare the way for him.

The construction of the window-box *per se*, is of the simplest. Any box that will hold earth and is fairly water-tight and of suitable dimensions answers the purpose, as it will be hidden with vines and flowers throughout the greater part of the summer, and when frost comes may be removed and stored away until another summer. Boxes that conform to the general architectural features of the house and which may be left up all winter are, of course, to be preferred, and these should be made in a substantial manner, lined with zinc and provided with a drainage cock to carry off surplus water.



A GRACEFUL ARRANGEMENT



MORE FORMAL CUT, GOOD IN COLOR

Window-Boxes—Their Utility and Beauty

The size of the window-box will depend upon the window, but they should be deep and wide enough to afford abundant soil for the plants they will contain, for to obtain the best effects the plants must be somewhat crowded or massed in the boxes. About ten inches deep and as many wide is a good size for the ordinary window; larger boxes have a heavy appearance, which it is desirable to avoid; they are also a strain on the supports, unless they constitute a part of the architecture of the house and are strongly built.

The boxes should be nearly or quite water-tight and plugged for the escape of surplus water during times of excessive humidity. Boxes that leak water at every pore are difficult to keep sufficiently moist; furthermore, the leaking of the water through the earth and out of the box carries with it much of the nurture of the soil and consequently impoverishes it to the detriment of the plants. Plants crowded together in small compass and depended upon to give a thrifty, vigorous effect, must be well supplied with moisture and nourishment.

Good garden loam incorporated with a liberal supply of old, well-rotted manure will grow the majority of plants to perfection, but for such plants as heliotropes, and fuchsias and begonias, a considerable proportion of leaf mould should be added, but this is too light for the generality of plants, and, as it dries easily, requires more moisture.

Much money may be expended in the purchase of choice florist's plants, while charming results may



ON A LARGER SCALE

be attained by quite simple means, providing the color scheme is carefully thought out and the location of the box considered.

It is doubtful if there is any better combination of color for general effect than scarlet and white, and boxes with this motif may be charmingly developed by combining the S. A. Nutt geranium with a good white geranium, antirrhinum or camphor geranium. Scarlet and white verbenas—so the scarlet be vivid and the white pure—also give excellent results, while

House and Garden

very attractive boxes may be arranged from the pink and white petunias; and there is a deep crimson, single petunia that, massed in a box on a grey or green house, is excellent. These are selections suitable for east, south and west exposures. For north windows plants of a different character are more desirable. The asparagus sprengeri, Boston fern, begonias, fuchsias and other partial shade-loving plants are at home here and grow and thrive as nowhere else.

The trailing fuchsias and abutilons, and the various ivy geraniums are among the most desirable plants for the window garden, and vines are an essential part. Where variegated foliage or much florescence prevails in the upright plants, it is well to have the vines that trail of a plain green, though there are many variegated leaved vines that are very effective in the window-box. Among these the variegated vinca is very desirable, also the glechoma, which has the merit of being hardy and may be carried over from year to year. The passion-flower, southern beauty, the cobæa scandens and the aristolochia elegans are plants that will add both vine and blossom to the window's glory. The maurandia is one of the prettiest climbing vines for the window-box. It has delicate, heart-shaped leaves and slender, tube-shaped flowers of violet, of pink and of white, and will stand quite hard frost, so that after the frost has robbed the boxes of their more tender treasures, the maurandia will continue to wreath it with garlands of green.

The coleus is an excellent plant for sunny window-



FOR A SUNNY EXPOSURE



FACING EAST

boxes if kept carefully pruned, but it grows rather rank when left to itself. The colors should be carefully chosen and some very dark variety mingled with the lighter ones for the sake of contrast. The new impatiens holstii is admirable for the north window, as it gives a wealth of scarlet blossoms all summer long.

But even the best arranged window-boxes will not remain beautiful unless carefully groomed and tended, and as the soil becomes exhausted in mid-summer it must be supplemented by the use of a good fertilizer, such as liquid manure or bone meal. The vines should be kept carefully trained, all dead leaves and withered blossoms removed and no seeds allowed to form, and if, in spite of the most watchful care, certain plants persist in growing shabby, they should be removed and fresh plants substituted. Pot-grown plants may be slipped out of their pots into the place vacated by the discarded plant and go on growing without any check, and when removing plants the opportunity may be utilized to supply a portion of fresh soil.

If one wishes to go to the trouble and expense, very beautiful effect may be achieved by following the season's calendar in the flowers. Thus April may show a mass of snow drops and crocus, while May ushers in the hyacinth and tulip. The June boxes may show a wealth of tea roses, and so on through the season's floral story until the gorgeous chrysanthemum closes the summer's pageant.

OLD-FASHIONED FLOWERS

By EBEN E. REXFORD

"There's no time like the old time—
The time when we were young."

SO the poets have written about the days of our youth, and a similar association of pleasant memories clings about the flowers that grew "in grandmother's garden," more years ago than most of us like to remember. We may have more brilliant flowers now-a-days, but none more beautiful—none, it seems to me, quite so *companionable*. They were "homely" flowers in the best sense of the term—flowers we could make friends with. About how many of the new flowers can that be said? They compel our admiration, but they do not win their way to our hearts as the old flowers did. Perhaps the fault is with us. But when we want a garden that we can get the greatest possible amount of enjoyment out of, we are always sure to grow old-fashioned things in it. Sturdy, self-reliant, easy to grow and sure to please—surely the amateur gardener who is planning a garden for the coming year will do well to make liberal use of them.

Sweet Peas, I am glad to say, have won their way back to the favor they ought never to have lost. They have done this by sheer merit. We have few flowers of daintier or more varied coloring, or more delightful fragrance, and none that are more valuable for cutting. They bloom throughout the greater part of the season, and can be kept in bloom until cold weather if prevented from forming seed. Plant them deep in the soil—not less than three inches—early in the season, as soon as the frost is out of the ground. Give them a support of coarse-meshed wire netting, unless you prefer to use brush, than



HOLLYHOCKS

which nothing suits the sweet pea better. On it the vines have a grace they never develop on any other support, for it allows them to ramble, here, there, everywhere without formality or restraint. And a sweet pea plant trained in a formal fashion is a sight to make the gods weep!

Nasturtiums are becoming popular again, and their popularity is well deserved. Brilliant as they are in the bed, they are less attractive there than when cut, and massed in a bowl of blue china or clear crystal, with a few of their own soft green leaves to give the contrast and relief necessary to bring out fully the richness of their orange and scarlet and golden-yellow and pale sulphur tints. Half a dozen blossoms, with three or four leaves, in a slender vase of clear glass that allows the stems to show through, makes a charming ornament for the summer breakfast table. It seems to bring the fresh, clear, crisp coolness of the morning into the room with it.

Balsams—"lady's slippers" they used to be, in grandmother's day—are delicate, dainty flowers that ought to be in every garden. Their petals are so fragile that they will not bear much handling, but when the double blossoms of pink and white and rosy purple and glowing carmine cluster so closely along the stalks that they seem to have been woven into wreaths, they are so beautiful that we can enjoy them without wanting to cut them. But in order to do

this to the best advantage it is necessary to clip away a good many of the leaves along each stalk. If we leave them unclipped, they will hide the flowers almost completely, they are so plentiful.



BOUNCING BET

If there is a flower richer and deeper in color than the African Marigold, I do not know what it is. "Velvet" marigolds they were called in the old time, because of the peculiar richness of their petal-texture. This plant is wonderfully decorative in the garden, especially when the sun shines on it, bringing out the fire that seems to smoulder under the surface of intense brown, overlaid with maroon that has a hint of scarlet in it. Orange would be a more fitting name for the color of this flower, I pre-

sume, and yet it is quite unlike any other orange I have ever seen, so deep and intense is its tone. A great mass of this marigold, entirely by itself, will make a striking feature on any lawn.

Poppies are delightful flowers, especially the slow-growing sorts like the Shirley and Iceland varieties. Their crimson, and scarlet, and white, and pale-rose petals have the sparkle and shimmer of silk in them. If they only lasted longer, after cutting, we would enjoy them more, but we ought to be thankful for the pleasure we get from them, even if short-lived, for no other flower has quite the charm that clings to them. A sleepy, drowsy charm, perhaps, but one that all of us feel the spell of, and would not resist if we could. I like, too, the tall, fluffy-flowered kinds, large as peonies, and seemingly so heavy that they cannot hold their heads erect until their fringed petals break apart, after which they suddenly take on an airy lightness that is the opposite, in every respect, of the bud from which the blossom grew.

Every garden ought to have its Peonies. For more reasons than one: They are beautiful flowers. They are so hardy that, after becoming well established, they require next to no care. Give them a liberal manuring each season and they will ask for nothing more from you. And they will increase in size from year to year until each root becomes a clump several feet across, and bears a hundred or more flowers in a season. I know of plants fifty years old that seem to be only in their prime. The place for this royal flower is in the border, where it will never be disturbed. It resents any interference with its roots, often refusing to bloom for a season or two thereafter. It is one of the showiest of all spring-flowering plants, and for cutting it is invaluable. I wish I could prevail on every flower-lover who has no peonies in his collection to plant at least half a dozen kinds next spring. So much pleasure would he get from them, after the first season, that he would keep on planting them until he became a peony crank, I feel quite sure.

Scabiosa—the "mourning-bride" of the old-fashioned garden—is not often seen now-a-days, but it is more satisfactory, in nearly all respects, than nine-tenths of the new flowers sent out by the florists with a great display of adjectives. It is of a rare color—a purple so rich and deep in tone that it seems almost black. There is a blue variety that is very lovely, but rather difficult to get seed of. The scabiosa is excellent for cutting because of its long stalks. When grown for garden-decoration it should be massed, as single specimens are not satisfactory.

Ten Week Stock—our grandmothers knew the plant as "gillyflower"—is one of the very best of all late-flowering annuals. It is almost always in full bloom when cold weather comes. Its long spikes of fragrant flowers are very charming in form and

Old-Fashioned Flowers

color. In sowing seed, sow it thickly, and as soon as the plants show whether their flowers are going to be double or single, pull out the latter, as they are not worth cultivating.

Our present-day *Centaureas* used to be known as "bachelor's button." Why, I never could determine, for the name seems in no way appropriate to the airy, graceful flower which we are told is the favorite of the German Emperor. We have no better blue flower among our annuals. There are white and rosy-violet varieties, but the blue is best of all. It is excellent for cutting.

Now-a-days we grow *Zinnias*. In the good old times they were known as "youth and old age." This because a new flower would often be produced from among the fading petals of an old one. The present zinnia is large, double, and rich in color, and in every way a vast improvement on the old strain. For hedges this plant is extremely useful, as it branches freely from the ground up and grows in compact form to a height of about three feet. It is of the easiest possible culture.

Then there is the *Nigella*, which used to be a favorite under the fanciful names of "love-in-a-mist," "love entangled," and "ragged sailor." This plant has changed very little in the last forty years. Perhaps because the florists have not taken it in hand as they have so many others; perhaps because it refuses to respond to the culture which results in so many improvements among other old plants. But it has a quaint charm about it that makes it well worth a place in any modern garden. Its bright blue blossoms, looking up at you from a mist of green, will win you as the wild flowers do. Plant it.

One of the flowers that has held pretty tenaciously to old-time popularity through many years of fickle and constantly-changing opinion is the *Hollyhock*—still one of our best hardy plants. The florists have exerted their skill on it, until the modern sorts are wonders of beauty in form and color, but I must confess to a liking for the old single type, tall, and sturdy, and stately, and with a far more vigorous constitution than its descendants can boast of. If I wanted a great mass of brilliant color for a prominent place on the home-grounds, I would plant single hollyhocks there, a dozen or more in a clump, and they would not disappoint me.

The hollyhock has, in the *Althea*, a relative it has no reason to be ashamed of, and one which ought not to be neglected now that the good old flowers are coming to their own again. Profuse in bloom, rich in color, and easily grown, it ought to be given a place in every collection where real merit counts for more than sudden and fleeting favor which the florists who go after "novelties" are largely responsible for.

No garden that aims to catch and hold to the old-time flavor of things ought to be without a clump of



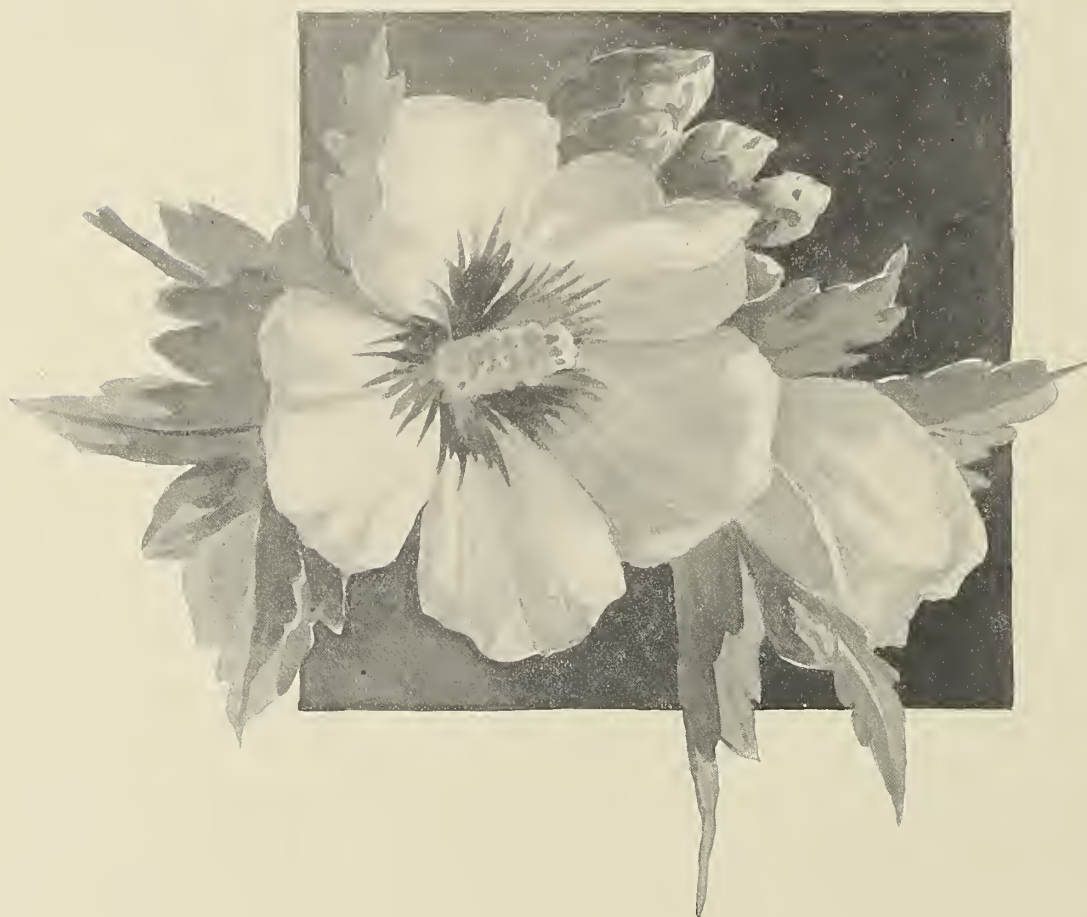
ZINNIA

Artemisia, more commonly known as Southernwood, but sometimes as "old man," or "old maid." The significance of these names I have never been able to determine. The finely-cut foliage of the shrub, —which is very graceful in its habit of growth,—has a spicy, pungent odor which is very pleasant, and a whiff of it takes one back to old gardens where the plant grew in such prodigal and aggressive luxuriance that other plants were often crowded to the wall by it. Another old plant, akin to it, was chamomile, of creeping habit, with aromatic, moss-like foliage and small, daisy-like flowers of white, with a yellow disc. Every season, I remember, great bunches of this plant went into the garret to be used medicinally, as occasion might require.

Bouncing Bets were ragged flowers, always, but they never seemed conscious of their rags, and were as cheerful and optimistic as a flower can well be. I remember that grandmother used to deplore their lack of neatness—or what seemed that, looked at



PEONIES



ALTHEA

Old-Fashioned Flowers

from her standpoint—but she often said that she could not help liking them, and whenever I come across any of them, now-a-days, I always feel like giving them a friendly hand in greeting. Like the candlestick lily, they were inclined to straggle all over the garden, and on this account were often turned into the roadside; but this never seemed to make the least difference with them. They kept on growing—and spreading—as if nothing had happened to them, and were just as jolly and happy there as anywhere.

The Tiger Lily, tawny, black-spotted, and stately, well deserves a place in our modern gardens. So does the clove pink with its cushion of gray-green foliage, above which it lifts its scores of flowers of pearly flesh-color marked with maroon, all through June and July. It is one of the sweetest of all flowers, is perfectly hardy, and because of its low, compact habit it is excellent for edging beds or for front places in the border.

Suppose you give some of these old-fashioned flowers a chance to prove their merit to you, this year. If you do, I know what the result will be—they will become permanent dwellers in your garden, for their simple, unassuming beauty will win your friendship—and keep it!

In many gardens the old Lilac is not seen to-day. "It spread so that it became a nuisance," they tell us. "Pretty?—yes, that is true, but it was *so* old-fashioned." What of that? Beauty *never* gets stale. Merit ought never to be subjected to the caprices of a whim for "something new." And if there is one shrub in all the list that has more genuine merit than the lilac, pray tell me what its name is! It is as hardy as it is possible for a shrub to be, it blooms with such profusion, year after year, that a bush of it is a flower-show in itself, and as for sweet-



THE FRAGRANT LILAC

ness, is there anything except the rose and the carnation that excels it? The objection urged against its spreading habit amounts to very little, for the use of the hoe, a few minutes at a time, through its growing season, will keep down every sucker easily. If I could have but one shrub, that shrub should be the lilac, the most charming and exhilarating of the spring time visitors.





PRUNUS TRILOBA—EGANDALE, ILLINOIS, 1905

THREE GARDEN BEAUTIES

BY W. C. EGAN

Prunus Triloba ONE of the most glorious sights that spring unfolds to us, is afforded by a well grown, and consequently happy, specimen of *Prunus triloba*.

Imagine, if you will, the long withy stems and branches of a many-branched shrub, standing eight to ten feet in height and fifteen in diameter at the base, and then clothe nearly every main stem, and all the laterals, with bright pink, double-rosetted, flowers, each over an inch in diameter, and so closely placed as to overlap and encircle the branches as the kernels of corn embrace the cob, and you may then faintly realize the beauty of a contented specimen of this Chinese shrub.

It is no stranger to the initiated, as it was introduced to cultivation in 1857.

It seldom reaches the dimensions above given, but I know of one of that size.

The one illustrated stands seven feet high and ten broad and is planted at the corner of a terrace, where the drainage is unusually good.

The flowers appear in early spring in advance of

the leaves, and last much longer than those of most of the family. While perfectly hardy in root and branch, its flower buds are sometimes caught by late spring frosts, but they are so numerous that even then those uninjured make quite a display.

It is a shrub that should stand alone and have ample room for development. It is sometimes worked on a plum to form a standard, but is rather short-lived in this form.

The genus *Prunus* is a near relative of the rose, belonging to the order *Rosaceæ* and includes over seventy species and many additional varieties. It is, in fact, one of the most important forms of arboreal life, inasmuch as it includes the peach, plum, apricot, almond and cherry. For ornamental planting it gives us numerous weeping forms, chief among which is the Japanese weeping, rose-flowered, cherry, *P. pendula*, whose delicate, pink-clustered blossoms completely envelop the tree in early spring, almost hiding trunk and branch in a fleecy mist. This species is apt to be a little tender at the roots, as are some others of the family, and suffer in severe

Three Garden Beauties

winters. I make a practice of mulching heavily with strawy manure, at the roots of all the prunus family.

Prunus padus, the European bird cherry, a somewhat slim, tall shrub-like tree, bearing drooping, white, racemes in early spring, followed by small red berries so dear to the feathered tribe.

Somewhat related to it, but much earlier and more profuse in bloom, is the Russian May Day tree,

P. Maackii, always in bloom by May first with me. It is a broad spreading tree, fully thirty feet in diameter and nearly the same in height, the semi-pendant branches sweeping the ground. I am surprised that I do not find this admirable species catalogued by the nurserymen. My plants were raised from seed brought from Russia by Professor Budd, of the Iowa Agricultural College.



DEUTZIA LEMOINEII—EGANDALE, ILLINOIS, 1905

Deutzia Lemoinei WHEN the naturalist, Thunberg, desired to honor his friend and patron, Johann Van der Deutz, he attached his name to a handsome group of shrubs, and introduced to cultivation the deutzia of our gardens.

Some fifteen species and many varieties are now known, the great majority of them coming from Eastern Asia and the Himalayas.

Unfortunately but few of them are reliably hardy with me, and up to the advent of *D. Lemoinei* I had about given up their cultivation.

D. scabra and its forms, *crenata*, and the Pride of Rochester, as well as *D. gracilis*, had succumbed to our rigorous winters.

Of late years, Lemoine, of France, has been hybridizing them, using the most hardy of the family, *D. parvifolia*, as one of the parents, and has produced several excellent forms. I have tried only one, *D. Lemoinei*, here illustrated, which has not only proved to be a very handsome and graceful shrub, but has stood several winters unprotected and unharmed.

It flowers in broad panicles of pure white and is contemporaneous with the lilac, so that it may be used as a front shrub to a group of syringas.

It grows about three feet high and soon forms a spreading bush of equal diameter.



NARCISSUS POETICUS—EGANDALE, ILLINOIS, 1905

Narcissus Poeticus **T**HE narcissus or daffodil, no matter under which name it is known, has long filled the hearts of flower lovers.

They have been the theme of poets, and the subject of the artist's brush.

Scientists adopted the old Greek and Roman name, *narcissus*, but the common people preferred that of daffodil, which, according to Lady Wilkinson, is simply an adaptation of the old English word "affodyle," meaning "that which cometh early."

"Daffodils

That come before the swallow dares, and take
The winds of March with beauty."

THE WINTER'S TALE. Act iv Scene 3.

Keats' immortal lines:

"A thing of beauty is a joy forever
* * * * and such are Daffodils,
With the green world they live in."

pay tribute to this lovely flower.

The English poets, more than any other people, sing its praises, for there two forms, *N. pseudo narcissus* and *N. biflorus*, grow wild and may be seen in their natural grouping.

One large yellow species is common in Palestine, and led Mahomet to say,

"He that hath two cakes of bread, let him sell one of them for some flower of the narcissus; for bread is the food of the body, but narcissus is the food of the soul."

Those whose acquaintance with this flower is limited to the florist's window but little imagine the scene of loveliness afforded by a large grouping located in apparently natural situations. In formal beds, proper in a way for tulips, they seem stiff and out of place, but in open spaces in bordering woods, or in open woodland recesses, where one may come upon them unawares, they seem at home, revelling in loveliness. Fortunate, indeed, are those whose ample grounds allow them such ideal situations, but we, whose space is limited, must not be deterred from enjoying their beauty in masses.

We must bear in mind, however, that after blooming, their foliage slowly withers and dies, and when all else around them is verdant with the impulse of life, they are wearing the sombre brown of decay.

This comes at a time when our gardens are in their prime, and we dislike any evidence of an end to our summer beauty. We dislike the untidy look, and when final ripening-off takes place, and only the bare ground meets our eye, we forget the former beauty, and deplore the empty space. They are sleeping the sleep of peace, and we know that they will reappear next spring in enhanced glory, but as we cannot disturb them it behooves us to so arrange our planting that when they are in their regal beauty, we may enjoy the sight unmolested, but when in the "sere and yellow" leaf some "thing of life" stands up and hides them.

Boro Boedoer

The illustration accompanying this article is of a group of *Narcissus poeticus* placed back of some shrubs. The camera was placed at a point that may be termed behind the bed, the space shown at the bottom of the picture being an open one between the plants and a wooded ravine. While a close inspection is more readily obtained from this point, the general-effect view is from the main lawn seen beyond, but more especially from the porch of the house situated at the left of the scene pictured.

In front of the three shrubs seen is a group of the tall-growing hybrid *delphiniums*. These entirely hide from the main lawn view, the dying foliage of the narcissus, but are not far enough advanced at time of bloom to interfere.

Their cultivation is simple. Plant in the fall in any good garden soil, in full sun or partial shade, where the drainage is good, and let them remain until they form large clumps. When they show signs of deterioration, take them up and replant. While

manure should not come in contact with the bulbs, a coating of it in the fall is beneficial, part of which may remain during the summer.

Some sow the seed of annuals over the bed in early spring in order that they may cover the ground in summer. I have had no success with this scheme, mainly, I presume, because the situation is too much shaded. Were it more in the sun I would sow the seed of the double form of *Sauvitalia procumbens*; not broadcast, however, but in little spots about eighteen inches apart, as this spreading, cushion-like plant will completely cover the ground when so sown. Its foliage is compact and neat and the very-double yellow flower with its black centre and bachelor-button aspect, nestling upon its parent verdure is pleasing.

It is a tidy plant, exhibiting no faded flowers, and as it seldom succumbs to its first tussle with Jack Frost, it exhibits its beauty long after many of its comrades have gone.

BORO BOEDOER

BY LAWRENCE BULLARD

TO the ordinary traveller, to the student of architecture, or to the botanist, a trip to the island of Java, only two days' sail from Singapore, is full of interest and instruction.

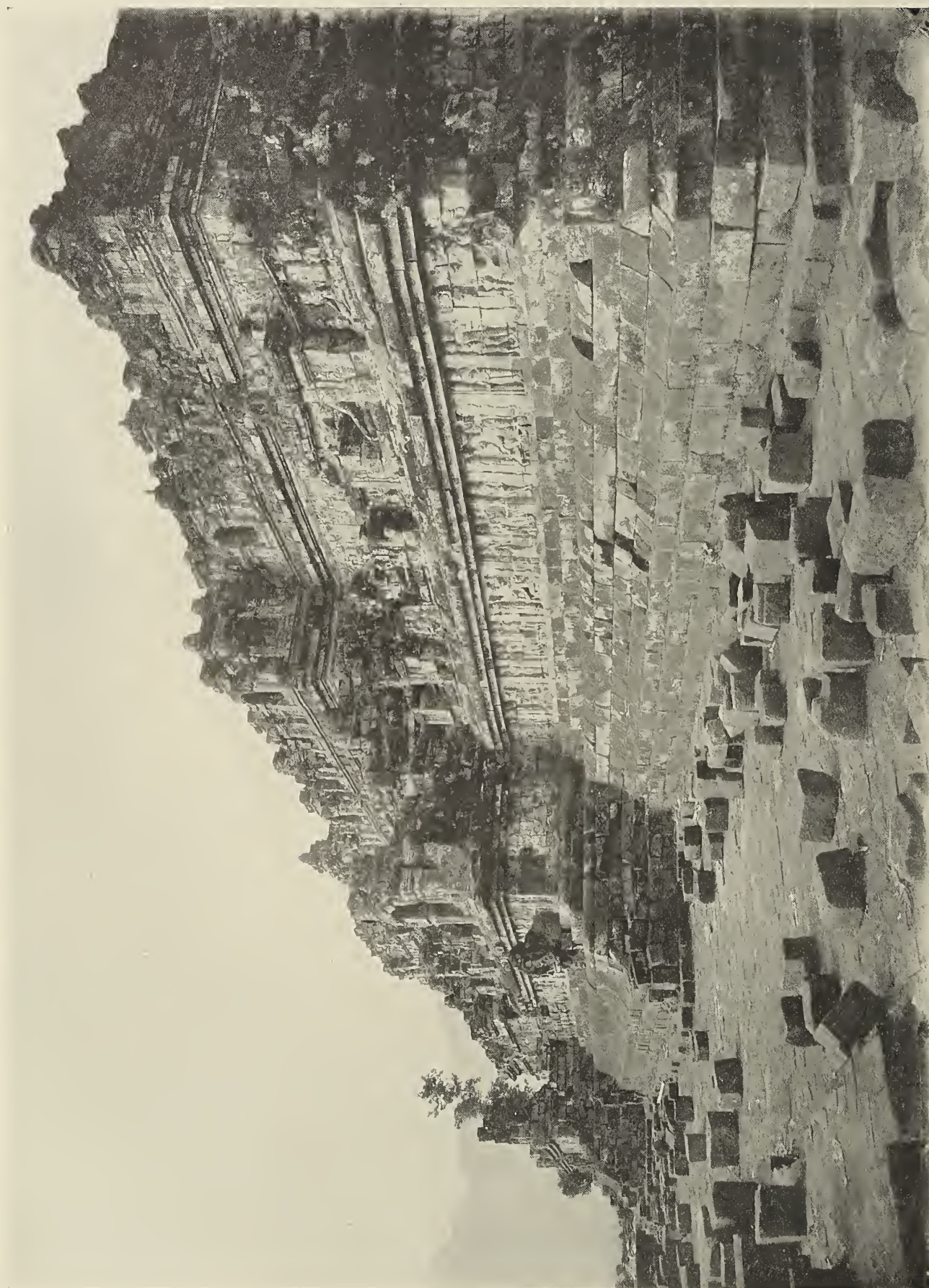
The island is in itself the most beautiful garden of tropical vegetation in the world. The "Pearl of the East" it is, without doubt, for nature has endowed it with tropical wonders that other famed islands lack. For its natural beauties alone, therefore, it will well repay a visit. But such a visit is not complete without seeing some of the many temples which dot the island.

Much has been said and written of the Buddhist architectural remains in British India, but few appreciate how much more wonderful are the temples of the Buddha in Java. The finest and grandest of these is at Boro Boedoer, in about the centre of the island and just east of Samarang. This great pyramidal structure, although earthquakes, deluges of rain and vandals have done it much injury, still retains, after almost twelve centuries of existence, its original form and much of its interesting sculpture and detail.

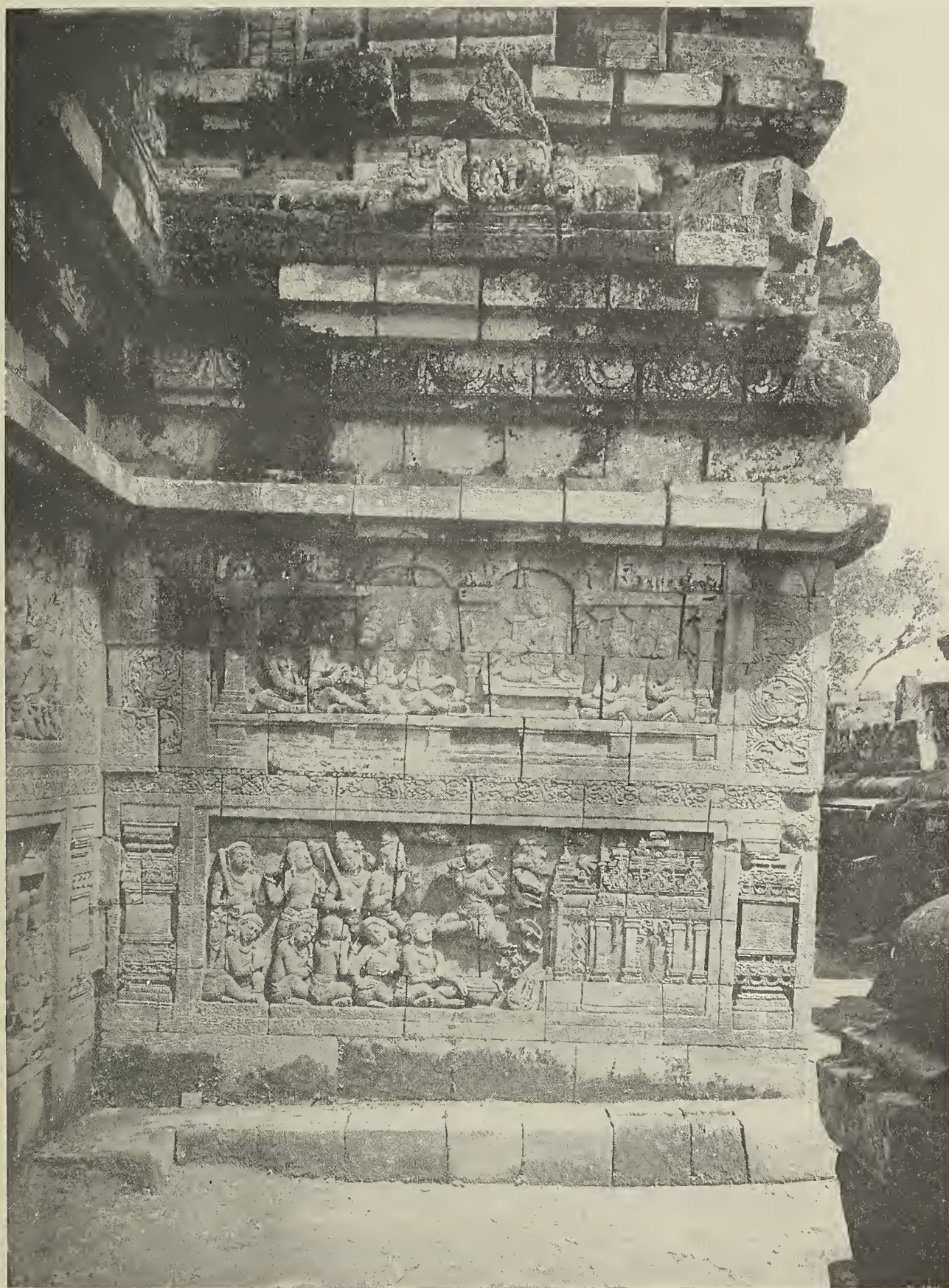
In 1814 a party of British engineers discovered the



BORO BOEDOER: A HOARY ALTAR OF BUDDHA



BORO BOEDOER: SHOWING EXTERIOR SCULPTURES AND NICHES CONTAINING BUDDHAS



BORO BOEDOER: DETAIL OF A GALLERY SHOWING SCULPTURED SCENES
FROM THE LIFE OF BUDDHA

House and Garden

temple buried beneath a hill of tropical vegetation, and uncovered its beauties to the world. Since then the Javanese have used it as a quarry, and for miles around may be seen Buddhas and odd bits of sculpture built into walls and lying by the roadside. Now, however, that it is under the care of the Dutch government, further vandalism is prevented.

The first sight of Boro Boedoer is very impressive and excites one's curiosity as it is seen, standing in its gray majesty, on a low hill at the end of an avenue of tall kanari trees. No more fitting approach could be devised than this avenue lined with these magnificent trees of the tropics. On nearer approach, when the details can be seen, one realizes what a remarkable and wonderful building it is.

The temple rests on a low rise in the plain and, in a way, forms a stone casing for the hill; that is, the hill is the core of the temple. The base is five hundred feet square. Thence it rises in five square terraces, on the uppermost of which are three circular terraces, and these are surmounted by a dome-shaped construction or dagoba, fifty feet in diameter, the top of which is some one hundred feet above the surrounding plain. The wall of each of the lower terraces is carried up to above the level of the succeeding terrace, thus inclosing a gallery. The walls of these galleries are sculptured, and the amount of work to study may be realized when it is known that the total length of these bas-reliefs is three miles. There are some nine hundred and fifty of these reliefs left in a fair state of preservation, out of an original total of over fifteen hundred. Four hundred and thirty-six Buddhas in as many niches or little chapels forming the balustrades of the terrace walls, sat facing outward, and many of them still remain. Staircases, cornices and other architectural details are richly and elaborately carved, and in fact very little vertical space is left unadorned. On the circular terraces are seventy-two latticed dagobas, each containing a seated Buddha facing the topmost dome. In the construction of the temple no mortar was used, the material being gray trachyte stones which originally must have fitted closely together. It is surprising that there is anything left when one hears how much of the sculpture has been ruined. Hundreds of statues have been mutilated or are lost; the greater part of the little chapels which sheltered the Buddhas, architectural details, and many feet of the terrace walls have fallen from the effect of earthquakes or have been taken away by man, and yet so tremendous is the structure and the amount of sculptured work, that there is still

a mine of wealth left in which the student of to-day may rejoice. In fact, there is so much to study and the splendor and intricacy of it is so great that, at first, one is appalled and shrinks from making any sort of an investigation. A clear comprehension would require many visits, because, as Ferguson says, it "contains an epitome of all we learn from other sources, and a perfect illustration of all we know of Buddhist art and ritual."

The principal object of the sculptures on the terrace walls was to portray the life of Buddha. And this is done from his birth until he attained Nirvana, in the purest Buddhist style. As is the case with the carvings on the tomb of an Egyptian when incidents in his life and that around him are shown, so it is at Boro Boedoer. Here, besides a graphic view of the life of Buddha, we see how the people of the seventh century lived, their houses, their occupations, and all that pertained to them. Courtiers, peasants, warriors, people plowing, sowing the seed and grinding the grain, women drawing water and children at play, and all the many occupations of the daily life of a people; and it is interesting to note in how much the same way the people of India do these things to-day. A dancing elephant attests the humor of the sculptors, while strange marine monsters show to what flights their imaginations took them. There is not a single entirely nude figure, and the drapery and costumes are a study apart, as is also the foliage, which is "complicated and refined beyond any examples known in India." None of the figures show Malay characteristics, but are unmistakably Hindu, with now and then a suggestion of the Greek, showing that the sculptors came from India and that they brought with them to this far-off land feelings of the highest type of sculptured art the world has ever known.

It is a pity that there is no inscription or anything of the sort by which to get an idea of exactly when this marvelous building was erected. But we do know, according to native records and traditions, that certain Buddhist princes came from India, and that the seventh, eighth and ninth centuries were the most glorious in arts and religion in the history of Java, and that the decline came in the tenth century. So Boro Boedoer must have been founded during that time, and Ferguson concludes that the second half of the seventh century saw it in the making.

No symbol fuller of meaning of the religion of Buddha could have been erected, and there it has stood in its sublime majesty for twelve hundred years.

PARIS PRIZE COMPETITION OF THE SOCIETY OF BEAUX-ARTS ARCHITECTS

By DONN BARBER, *Architect*

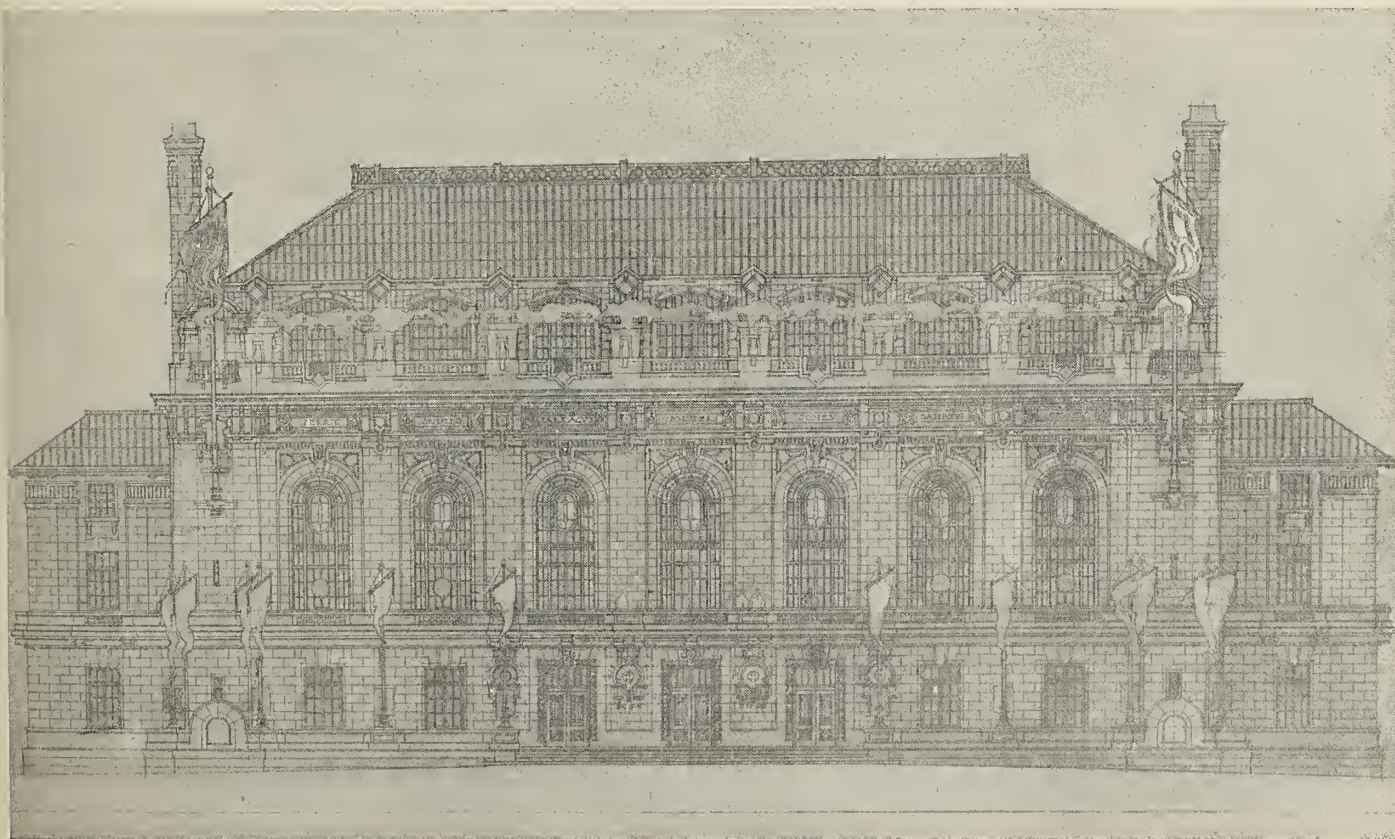
THAT New York is doing the "lion's share" in earnestly and properly educating those who should be the artists of the future, can no longer be doubted. A visit to any of the flourishing ateliers and art schools of the city, where numbers of young people are enthusiastically pursuing their studies, would prove even to the skeptic that a vigorous, rational and thoroughly organized educational movement has become a reality that must of necessity accomplish marked results. The progress that is already being made is notable and encouraging to a degree. A considerable number of the students, of course, have more enthusiasm than real talent, and there are many that will, through discouragement, fall by the wayside and be lost to the cause, but the majority will surely succeed; and their influence upon the art life of the country at large must not be underestimated, nor the fact lost sight of that as years roll on, this influence will surely raise the average of artistic appreciation and cultivation to a high plane of enlightenment.

We are a rich nation and a generous one, and therefore the cause of art must grow, for wealth has

always fostered and encouraged art as it has literature and music.

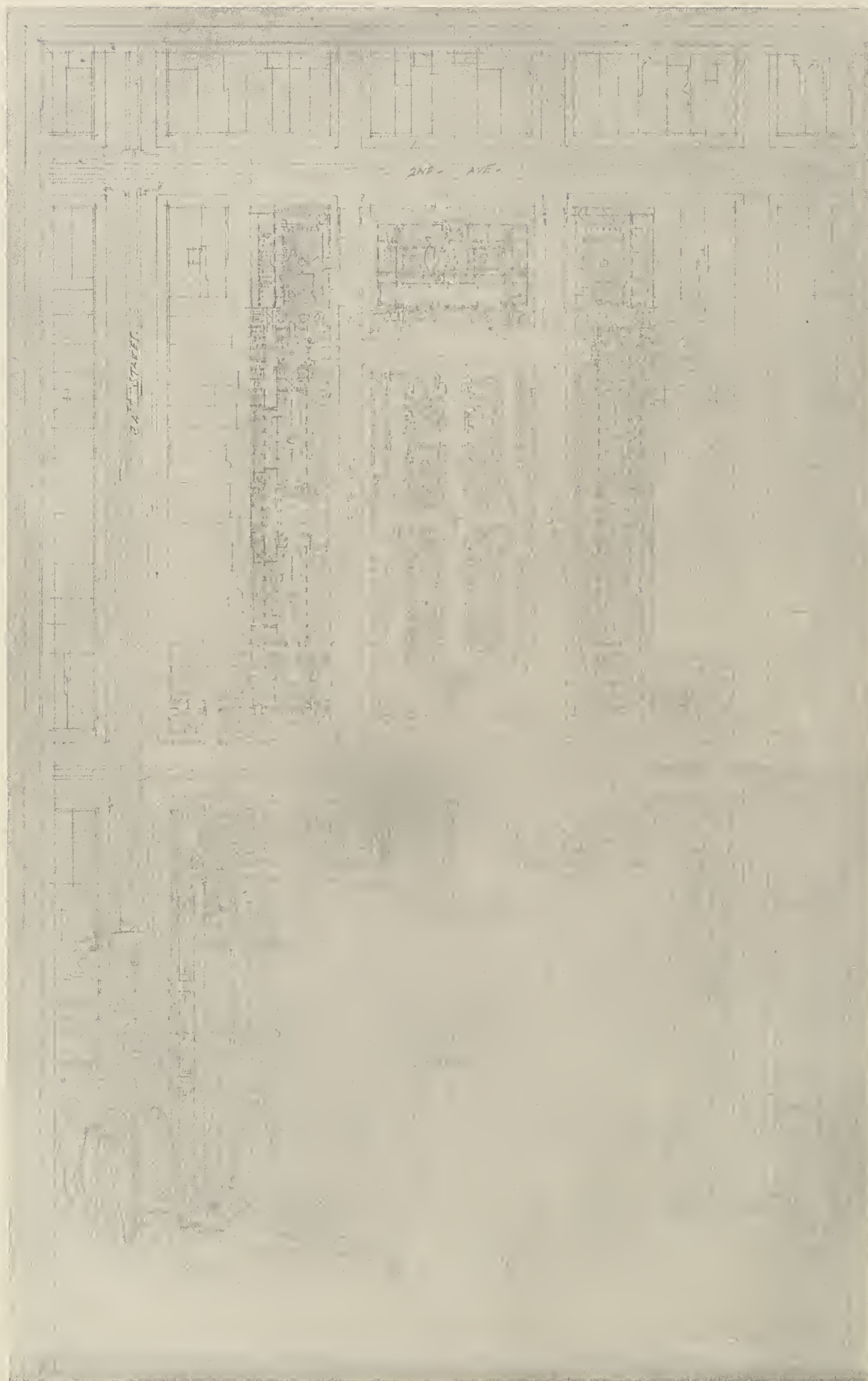
The so-called general public does very little for art, although it can be said to reasonably enjoy it and to profit by it intellectually. It has been the wealthy men and women of history that have created the demand for works of art through their love of the beautiful that comes with higher education, and their desire to be surrounded by the inspired products of the artist's brain and hand. This demand for works of art of all kinds has for centuries given artists and artisans not only employment and a means of livelihood, but oftentimes inspiration.

Art progress in the United States owes a large and constantly increasing debt to its men and women of wealth. They have been generous and public spirited to a degree, having bought extravagantly to gratify their own pride and desires and at the same time given lavishly and bequeathed vast sums in and for the matter of art education of the people. They have built and endowed schools, equipped museums, established scholarships, and stimulated artistic effort through the offering of money prizes.



FAÇADE OF CLUB-HOUSE

House and Garden



THE PRELIMINARY SKETCH PLAN

We are still a young people, but art—which is old—seems lately to be receiving a new impulse. A vigorous campaign of education in matters of art is spreading over the entire country. Art schools are crowded; new art societies are being organized every day; exhibitions of art objects of all kinds are being held, and are interesting a wide and admiring public. Some of our art societies have become broadly known through the great good they have accomplished in architecture. In this branch of art, the Ecole des Beaux-Arts has influenced us mightily, and the Society of Beaux-Arts Architects occupies at present a unique position in the architectural educational world. The Society of Beaux-Arts Architects is, strictly speaking, an Alumni Association organized for the purpose of cultivating and perpetuating the principles and associations of the Ecole des Beaux-Arts in

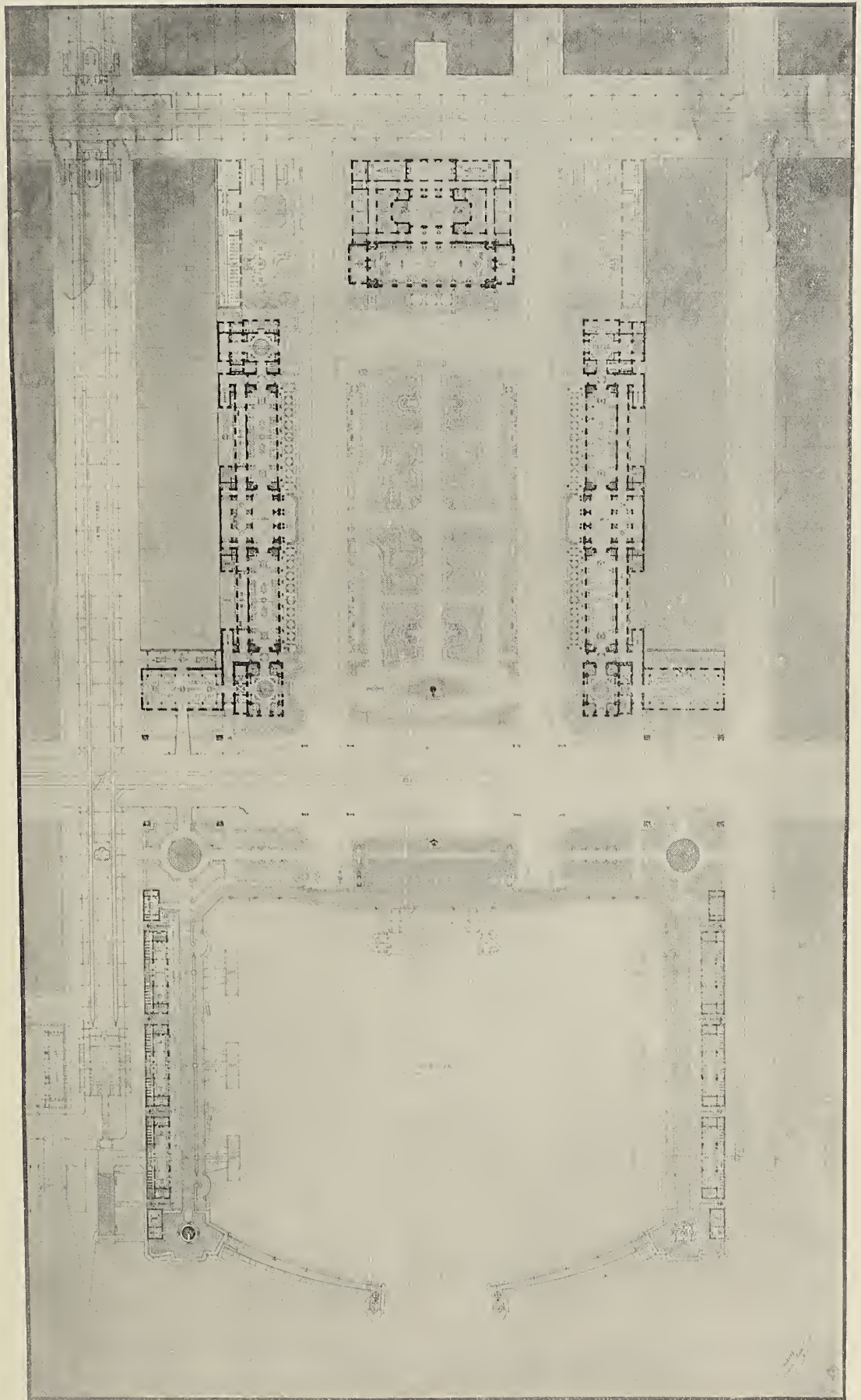
Paris Prize Competition of the Society of Beaux-Arts Architects

Paris, and this it does, as far as the outside world is concerned, through the medium of its architectural course of study, held under the direction of its Educational Committee.

It has adopted a regular curriculum modeled after that of the Ecole des Beaux-Arts in Paris. It has ateliers and studios run under its auspices; it manages courses of lectures and exhibitions, and it has established within the last two years, as a fitting climax of its educational efforts, the competition for the so-called "Paris Prize."

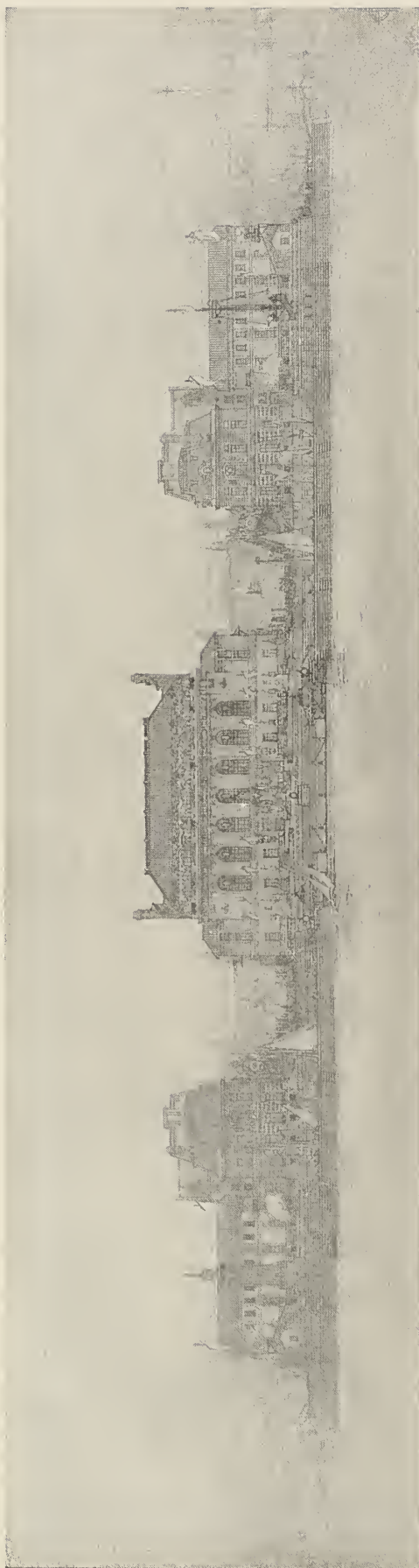
That the influence in architectural matters of the Society of Beaux-Arts Architects has been felt all over the country, cannot be questioned; its scheme of study has now been practically adopted by the Architectural Departments of three of our leading Universities; a matter upon which the members of the Society have every reason to congratulate themselves, for it shows that their labors have been applied in the right direction, and it also furnishes further proof that the application of common sense, reason and logic, to the accomplishing of anything in this world, will inevitably win out in the long run.

There is nothing new or experimental in what the Society of Beaux-Arts Architects teaches, or in the way it teaches it. It aims simply to perpetuate the scheme and spirit of the propaganda in vogue at the Ecole des Beaux-Arts, which comes down to us as a heritage through



THE FINAL PLAN

House and Garden



ELEVATION FROM THE EAST RIVER

the refining influence of over two hundred and fifty years. Its great teaching has always applied and it applies just as broadly to-day: its extraordinary educational record makes it unquestionably, in the minds of most people, the greatest live school of architecture in the world.

The idea of the Society of Beaux-Arts Architects in establishing the "Paris Prize" was, that they should send the most worthy and promising pupil of the Society over to France to represent the Society in the mother school. A qualifying competition was therefore organized for the purpose of choosing a student to hold this honor, and who having won the competition, should pursue his studies in the First Class of the Ecole des Beaux-Arts of Paris, according to the regulations especially adopted by the French Ministry of Public Instruction and Fine Arts to cover these particular cases, and which in general terms provide that:

Those young men specially described as "Foreign Scholars," who are presented to the French Government in the quality of "Paris Prize Scholars," are authorized to follow the lectures and to take part in the competitions of the first class in the Section of Architecture, subject to the approval of the Faculty;

That the "Prize Scholar" must have obtained this title by a special competition, publicly organized, in view of this recompense:

That this competition can be held only by societies composed exclusively of old students of the School of Fine Arts, or of the Reginal School of Fine Arts of France, and having at least one hundred members.

The scholar must produce a certificate coming from the Director or President of the Society charged with the direction of the competition, attesting that he has already successfully completed studies corresponding to those exacted by the regulations of the preliminary studies of the second class in the Section of Architecture of the National School of Fine Arts.

Presentation of the scholars to the French Government is made by the Embassy or Legation of their country.

The studies of the "Foreign Scholars" are regulated by the articles of the regulations applicable to the first class of the School of Fine Arts. These Scholars cannot, however, profit from prizes attached to the various competitions, nor obtain the diploma of architecture reserved for the French and Foreign Students who have made all their studies at the School of Fine Arts or at one of the Reginal Schools of Architecture. The limit of age for participation in all French competitions is thirty years.

The above regulations do not apply to "Foreign Scholars" who have followed all the prescribed studies, including the examinations for admission to the second class of the Ecole des Beaux-Arts, or who during the course of these studies shall have profited by the scholarship under consideration.

If the winner of the "Paris Prize" competition is unable to qualify according to the above regulations before the Jury of the Society of Beaux-Arts Architects within six months after the judgment of the final drawings of the competition, then he shall not receive the appointment and the prize will lapse for the current year. The Jury examines the aspirant generally on the subjects referred to in the above regulations, which consist of the principles which underlie architectural construction, history, perspective and design.

Paris Prize Competition of the Society of Beaux-Arts Architects

The winner of the "Paris Prize" receives two hundred and fifty dollars quarterly for two and one-half years dating from his departure for Europe, which must be not later than seven months from the judgment of the final competition in design. He is expected in this time to render at least eight *projets* in the first class of the Ecole des Beaux-Arts, besides doing other work which the Society stipulates and requires.

Two preliminary and one final competition is held for the "Paris Prize." The first fifteen men who have the greatest number of values obtained in the competitions of the Society of Beaux-Arts Architects, and who shall have given notice of their intention to compete, are exempt from the first preliminary competition.

The first preliminary competition consists of a twelve hour *esquisse-esquisse* and is open to every American.

The second preliminary competition is open to the fifteen men having the most values in the competitions of the Society and five others chosen out of the participants in the first competition.

The second competition consists of an *esquisse-esquisse* rendered during twenty-four consecutive hours beginning at 9 o'clock in the morning.

For the final competition five students are chosen from the second preliminary and they become the "logists." The "logists" go *en loge* and are given the programme for the final scholarship competition. They file an *esquisse*, which they have to make in twelve hours, and which commits them in a general way to the solution of the problem as they then see it. The problem is then studied in the ateliers on the basis of the submitted *esquisse*, but under the supervision of the "Patron" and subject to his criticism and advice. The finished drawings have to be the personal work of the student, however. They are rendered *en loge* and under the surveillance of the Committee.

The scholarship is awarded to the winner of the final competition under the conditions mentioned above, and the four other competitors receive \$100 each, provided the Committee considers their work satisfactory. The drawings of the winning *projet* belong to the Society.

Two months is the time allotted for the completion of the final *projet*. All competitors entering the competition must be under twenty-seven years of age.

The following is the programme for the "Paris Prize" competition for the season of 1905:

A YACHT HARBOR AND CLUB

It is suggested that a harbor be built in the East River for the landing of large and small tenders from yachts and for pleasure crafts belonging to three of the principal yacht clubs of America.

It is proposed to take the small park which the

city is building, and for which the property has already been procured and the buildings torn down, which is bounded by 35th Street on the south side, 36th Street on the north side, Second Avenue on the west side and First Avenue on the east side. The architectural treatment of this park site is to be a part of the general plan, and the property between the park site and the river, and extending from 34th Street to 37th Street is to be purchased and made a part of the general scheme, and at the same time afford a monumental approach from the river. On this side is to be built a harbor or basin in such a way as to adequately protect the boats from storms and the rough water caused by the passing of large ships. This harbor should be built of stone, with a suitable lighthouse on one side of its entrance. The harbor must not extend into the water more than two hundred feet, nor must it interfere with the easterly building line of First Avenue. In exchange for the property thus purchased and in a sense added to the size of the City Park, the city is to give a section of the westerly side of the park to Second Avenue, not more than two hundred and fifty feet in depth, measuring from the easterly building line of Second Avenue; and this will be used for the building of a large club-house of about one block or two hundred feet easterly frontage on the park. In addition to the land purchased for the river approaches, the south side of 35th Street and the north side of 36th Street from Second Avenue to First Avenue are to be bought; also the front lots on First Avenue facing the east and extending from 34th to 37th Street. Somewhere on this newly acquired property it is proposed to build a large and handsomely equipped high class restaurant which will be maintained and equipped for the general public, and in this way be a considerable source of revenue. The necessary service rooms, such as kitchen, pantries, etc., must be provided; also, waiting-rooms and special dining-rooms such as would be required by a large restaurant. Sufficient space must be reserved to provide terraces and grounds around this building to make it possible to dine outside when the weather so permits.

The third principal feature called for in the club plan is a marine museum with terrace and approaches from the central quadrangle. This museum will contain an important collection of ship models and other objects of historic and practical interest. In the same building should be provided a library containing books on marine architecture and other kindred subjects of interest to ship owners and builders; also the necessary dependencies for the maintenance of such a building.

The club-house proper is the central building of the composition and is to be provided with all the comforts of a well equipped club for the three principal yacht clubs in or near New York. A central monumental hallway and a large model room about

House and Garden

150 feet long are to be the principal features of the club-house. There are also to be provided lounging rooms, committee rooms, small library, administration departments, service rooms, etc. It is suggested that the service and servants' entrances should be on Second Avenue towards the elevated road. The elevated is to provide a station with entrance and exits near the club. The club must screen the elevated road and some special treatment may be suggested for the road between 35th and 36th Streets, and monumental entrances to the quadrangle should be provided where 35th Street and 36th Street come into the general scheme at the northwest and southwest corners of the quadrangle, and this should be made to compose with the club and the surrounding buildings.

While there must be no interruption in the general circulation of First and Second Avenues, 35th and 36th Streets between First and Second Avenues may be treated as part of the general scheme without reference to their extending lines.

Somewhere not far from the restaurant must be provided an auto garage, and not too far from the museum and library provision should be made for ship stores; also a small library and club-house making a meeting place for sailors.

In the architectural treatment of the quadrangle or approaches should be provided a monument or

fountain "To the Memory of John Paul Jones, the Founder of the American Navy," and perhaps some memorials to the men who have done active work for the improvement of navigation and the development of naval architecture in the history of civilization.

For the preliminary sketches there must be furnished a general plan at the scale 1-64 inch equals one foot, and a façade from the river at the same scale; also a longitudinal section from the quadrangle and extending from the river to Second Avenue and the elevated road.

For the finished drawings a main plan should be given showing the treatment of the basin and approaches, layout of the park and of the buildings suggested, and elevations from the river showing the scheme from 34th to 37th Streets, also a longitudinal section at the same scale from 34th Street to Second Avenue to the elevated road, and a detail of any corner of any building at $\frac{1}{4}$ inch scale.

The above programme furnished some interesting *projets*, which were exhibited and judged this last summer. The jury selected as the winner of the "Paris Prize" for 1905 Mr. John Wynkoop, of the Atelier Donn Barber, 147 East 42nd Street, New York. Mr. Wynkoop has qualified in every particular and has lately arrived in Paris to begin his work there in the Ecole. Illustrations from photographs of the winning drawings are shown in this article.



RESIDENCE OF E. W. CLARK, ESQ., CHESTNUT HILL, PHILADELPHIA

GEORGE T. PEARSON Architect

HOUSE AND GARDEN CORRESPONDENCE

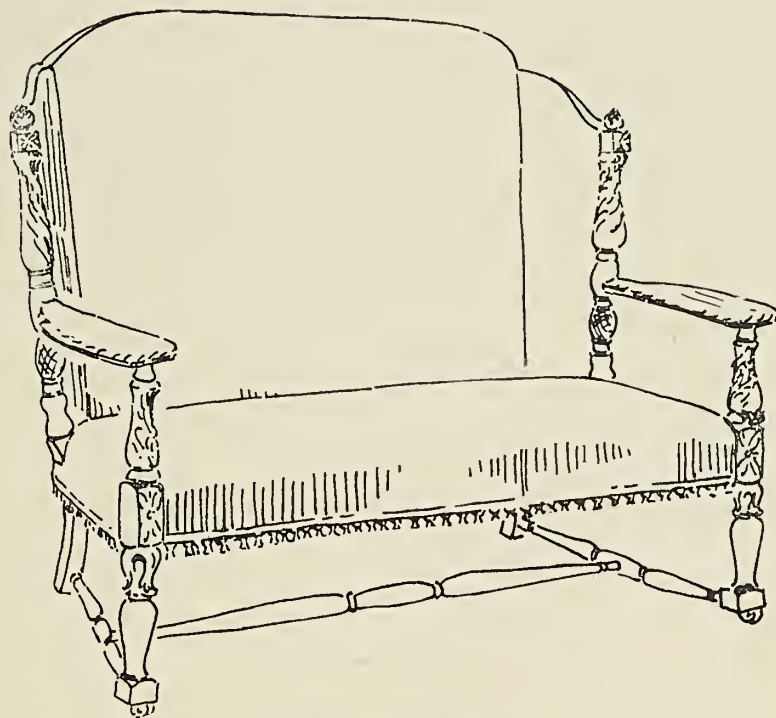
FURNISHING AN ENTRANCE HALL

I wish to furnish an entrance hall of an American basement house. The front door is all of glass covered by an iron grill; I have a very beautiful Tabriz rug which covers all but a two-foot margin of the floor. The woodwork is of oak and of a very crude, disagreeable color and finish at present; it is what is known as golden oak. I desire very much to have this dark and of flat finish. Kindly advise me how to secure this effect. I would like it to be about the shade of real old English oak. I wish to purchase two good pieces for this hall, a seat, couch, divan or davenport, and a large table. Will you give me some suggestions for these? What shall I do with the walls? there is no wainscot.

E. G.

You can remove the varnish and stain from your oak by using supreme varnish remover. This should be applied with a stiff wire brush. By this treatment you can reach the bare wood and treat it as such. English oak wood tint is an excellent nut brown shade, and one coat of this should be applied, followed by one of No. 20 surfacer, and one of dead lac. No filler is used, and a beautiful dull finish is obtained. Cover your walls with Japanese grass cloth in a shade between brown and goldenrod yellow. This is most attractive in combination with the English oak wood stain, and will also harmonize well with your Tabriz rug. On one side of the hall, hang a tapestry, something with dull smoke blue background and figures would be effective. I would advise a Gadshill table and sofa for use here; the table should be placed well in the centre of the hall. The sofa should be covered with dull, rich blue cut velour matching in tone the blue of your rug. These pieces come in oak and in mahogany. In mahogany, the price of the table is \$95.00, the sofa \$65.00.

MARGARET GREENLEAF.



A GADSHILL SOFA

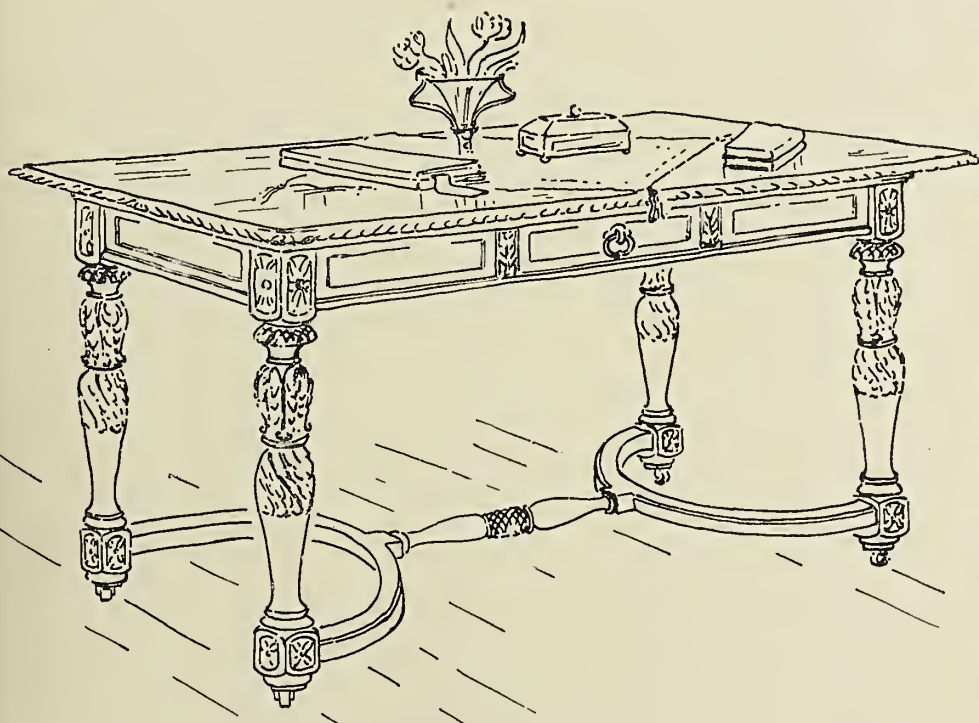
SEWAGE DISPOSAL IN THE COUNTRY

In reply to E. J. C. and M. F. we would say that the first of two papers on the disposal of wastes from country houses will probably appear in *HOUSE AND GARDEN* for April and the second paper in the following issue. Meanwhile we can only reiterate that the installation of the Waring system in any of its more recent modifications should be done only under expert advice to ensure success.

READY MIXED PAINTS

A correspondent writes that some injustice may have been done to the several excellent brands of ready-to-use paints in the market by our reply to N. D. H. in the January issue of *HOUSE AND GARDEN*. We might have added to what was then said, in order to clear up the point raised, that when a brand of paint has maintained its place in the market for ten or a dozen years, it has done so only because time has proven its permanent good qualities. New brands of inferior quality may find a market for a limited time but when all new territory has been exploited they drop out of sight and are heard of no more.

There is also an additional advantage that may be credited to the ready mixed paints of the best quality, viz.: that the incorporation of the materials is more thorough than is possible when the ingredients are mixed by hand.



A GADSHILL TABLE

NOTES AND REVIEWS

MR. FRANK MILES DAY

WE have much pleasure in recording the announcement, received as we go to press, of the election of Mr. Frank Miles Day of Philadelphia as President of the American Institute of Architects. This honor is accorded only to architects of distinguished position in their profession and is a fitting acknowledgment of Mr. Day's ability both as a practitioner and an advocate of civic improvement.

IN DEPRECATION OF RENAISSANCE ARCHITECTURE

ANY new book by Professor Moore,[†] the author of "The Development and Character of Gothic Architecture" would command attention, but when he selects as his subject the "Character of Renaissance Architecture," interest is immediately reinforced by a curiosity to discover what so pronounced and accomplished a mediævalist can have to say of the mode which antagonized and displaced the art of Amiens and the Isle de France. His thorough appreciation of that logical unity of Gothic art which, in its perfected form, welds plan, section, and façade into one organic and indissoluble whole, leads Professor Moore to discuss his subject from a somewhat novel point of view. Defining beauty in architecture "as the artistic coördination of structural parts," the art of the Renaissance builders is at once attacked from this position, and the point is made clear that the individualistic spirit of the age was wholly unfavorable to the production of a great natural style either in Italy, France or England; and that the dilettante efforts of the Renaissance architects to displace architecture from its true position as the highest development of handicraft, by forcing it to pose as one of the fine arts in the sense in which painting, sculpture and poetry are such, resulted only in producing an art without consistent principles, whose sole motive power lay in the futile attempt to recover the style of Imperial Rome.

Professor Moore's conclusions will be profoundly distasteful to the present day advocates of Renaissance art, as the solvent for modern problems, but his protest will apply a much needed corrective to the arguments of the neo-classicists, whose zeal is usually apt to outrun their knowledge.

[†]Character of Renaissance Architecture, by Charles Herbert Moore, with twelve plates in photogravure and one hundred and thirty-nine illustrations in the text. New York: The Macmillan Company, 1905.

FURNISHING THE HOUSE

MISS ALICE M. KELLOGG, a valued contributor to the columns of *HOUSE AND GARDEN*, has written a book* on the art of furnishing the house, which we can commend to our readers. It will especially appeal to house owners of refined taste but moderate incomes, who are impatient at ill-considered surroundings, but lack the knowledge of how to better them without a prohibitive expense.

The illustrations in Miss Kellogg's book are especially helpful in that they are from photographs of the objects and arrangements described in the text, and are, by themselves, most helpful and suggestive. The interior of the house is considered room by room, including the veranda, the kitchen, and the housemaid's room; and there are additional chapters devoted to discussions of furniture, drapery, beds and bedding, lamps, and candlesticks, and the various other elements of interior decoration. It is written from a sane, sound, and thoroughly domestic point of view, and its suggestions are correspondingly wholesome and refined.

TABLE SERVICE AND EQUIPMENT

A VERY suitable companion to Miss Kellogg's book is Miss Marchant's "Serving and Waiting"[‡], written from the same point of view and with the same adequacy of mental equipment.

Within the compass of 139 pages it gives explicit directions for all of the more usual occasions and some less usual and it is copiously illustrated by photographs. Among the latter may be named "Table Arranged for an Impromptu Evening Supper;" "For a Dutch Supper;" "Entrée Ready to Be Passed;" "Compotier, Relish and Bonbon dishes for a Formal Dinner;" "An Individual Cover for a Dinner Served Without a Maid;" "Picnic Box, With First Course of a Picnic Luncheon;" "Table Set for Tin Wedding Anniversary;" and many others equally novel and interesting. It is a very agreeable relief to meet with two such wholly sensible and refined books as Miss Kellogg's and Miss Marchant's after the avalanche of trash which has overwhelmed the book market in this particular field. People of cultivated tastes will thoroughly enjoy them, and those who aspire to cultivation could not have safer nor more interesting guides.

*Home Furnishing, Practical and Artistic, by Alice M. Kellogg, with fifty-five illustrations from photographs. New York: Frederick A. Stokes Company. Publishers. 363 pages, 5 in. x 7½ in.

‡SERVING AND WAITING. Modern methods of table preparation, by Eleanor Marchant, with forty-six illustrations from photographs taken under the personal supervision of the author. New York: Frederick A. Stokes Company.

House & Garden



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VILLA OF MONSIEUR CHARTRAN ON LAKE GENEVA

House and Garden

Vol. IX

March, 1906

No. 3

THE SWISS RIVIERA

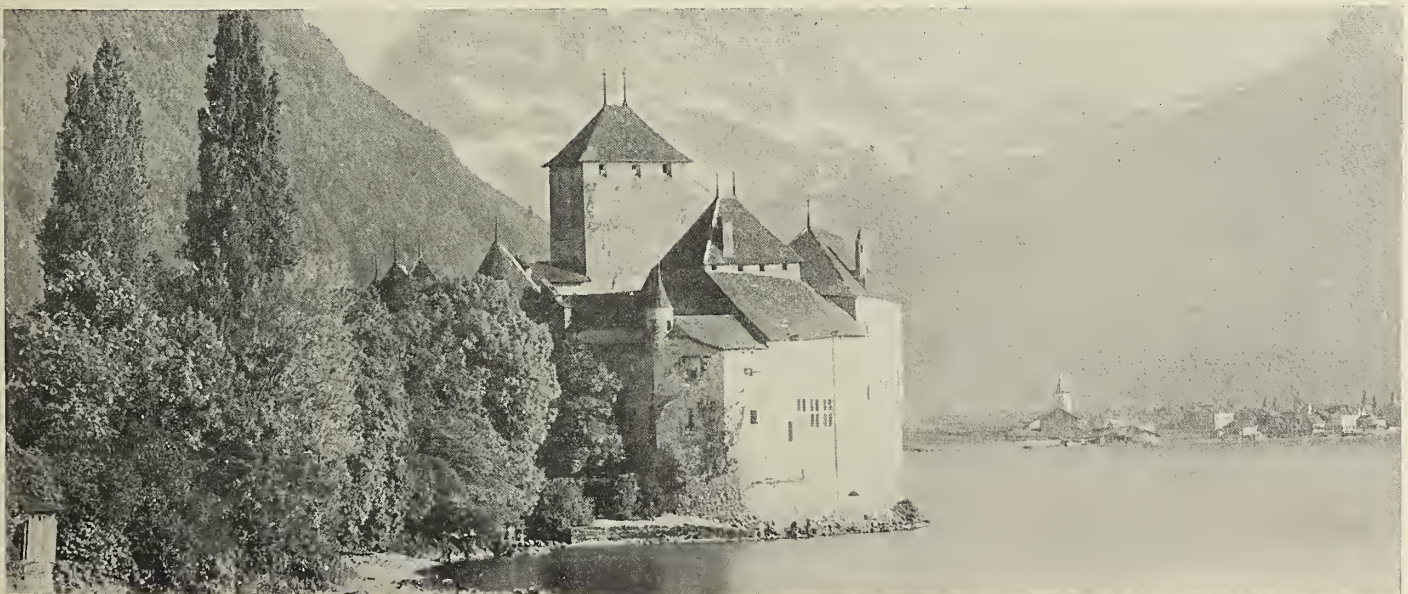
BY WILLIAM ELLIS SCULL

AT the eastern end of Lake Geneva, on the northern shore of what is called the *Petit Lac*, is a neighborhood much frequented by travelers during the "holiday" months, or passed by them on their way to Zermatt and other places approached from the Rhone valley. Few Americans, however, are familiar with its delightfully mild winter climate, but rather suppose Switzerland to be a bitterly cold place in winter, because in summer the snow is still deep on the mountains, and is even added to in July and August.

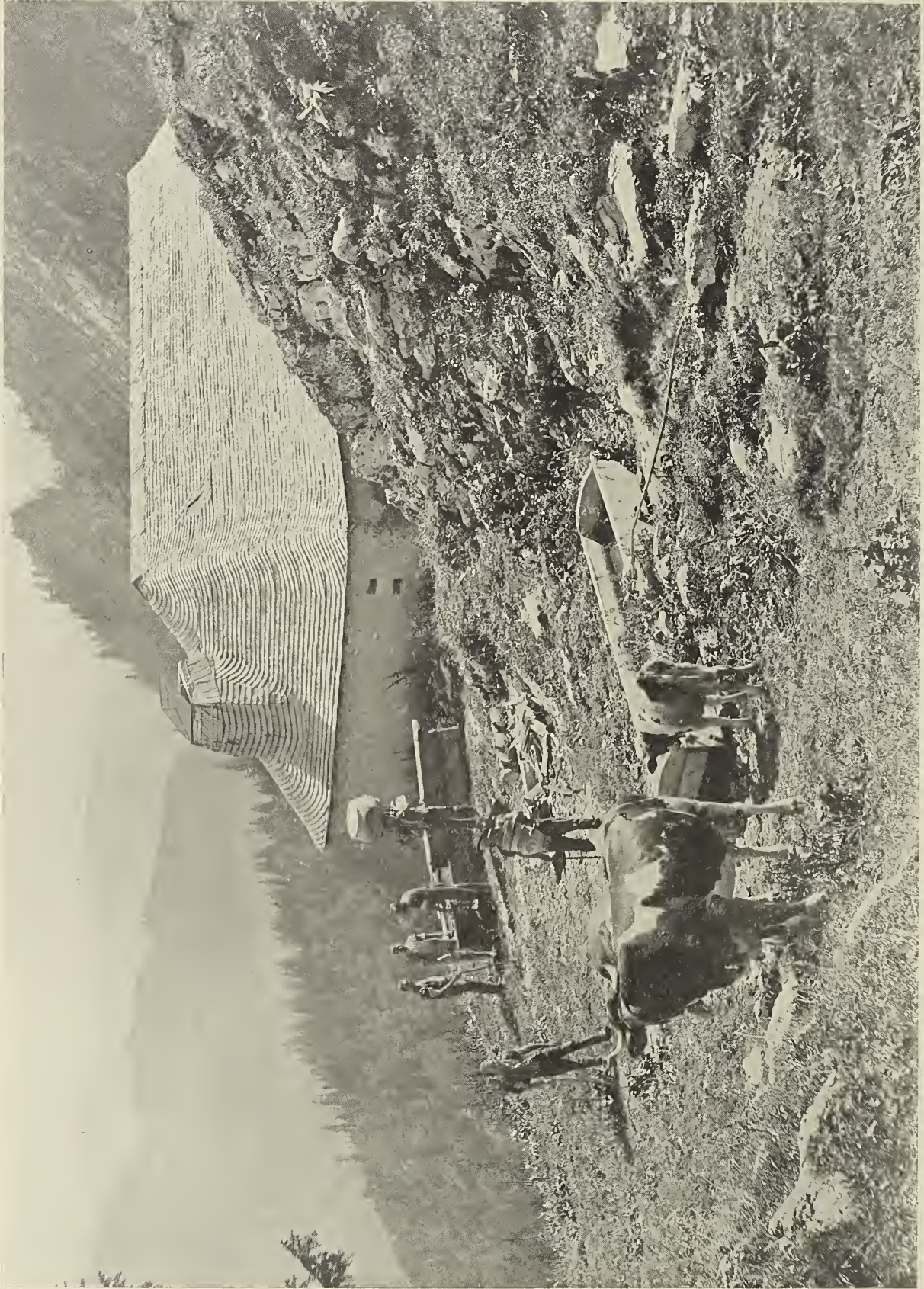
The narrow strip of land from the castle of Chillon to Vevey, including Territet, Montreux and Clarens, called the *Suisse Riviéra*, is protected from the cold winds of the north by the mountains, and is tempered on the south by the warm water of the lake, and here the lowest temperature in winter is 33° with an average through the year of 50°. A little snow sometimes falls in January and February, but it does not rest on the ground. The spring flowers appear in February, and it is not rare to see roses blooming in the gardens at Christmas. The lake never freezes over, which, notwithstanding all is said about protection and storage of summer's sun, seems almost a freak of nature. The Penobscot Bay, on the coast of Maine, opening as it does into

the ocean with its salt water, tide of fifteen feet, and high waves, sometimes freezes solidly from the shores of Long Island to the mainland, a distance of four miles, and so solidly that heavy teams cross on it; but Lake Geneva, comparatively small, with still fresh water, high in latitude as well as high in level above the sea, never freezes over. I heard an old native say she thought the cold water must all keep at the bottom.

Like many other places, this corner of the earth is most delightful in springtime, when the Swiss wild flowers, one hears so much of, are at the height of their beauty. During the months of May and June, the fields are carpeted with flowers, which form first one shade and design and then another. There are some localities where, without moving from one spot, from twenty to thirty different kinds can be picked. But, above all, in luxurious beauty and beyond description is the narcissus. For nearly a month the air is filled with its fragrance. They are almost as thick in the fields as those the greenhouse gardener plants in his small boxes, for the purpose of economising space under his glass; and for which he charges accordingly. One is quite inspired by this luxuriant growth, which is Nature's bountiful provision for man's enjoyment alone. Each year



CHILLON AND THE DENT DU MIDI

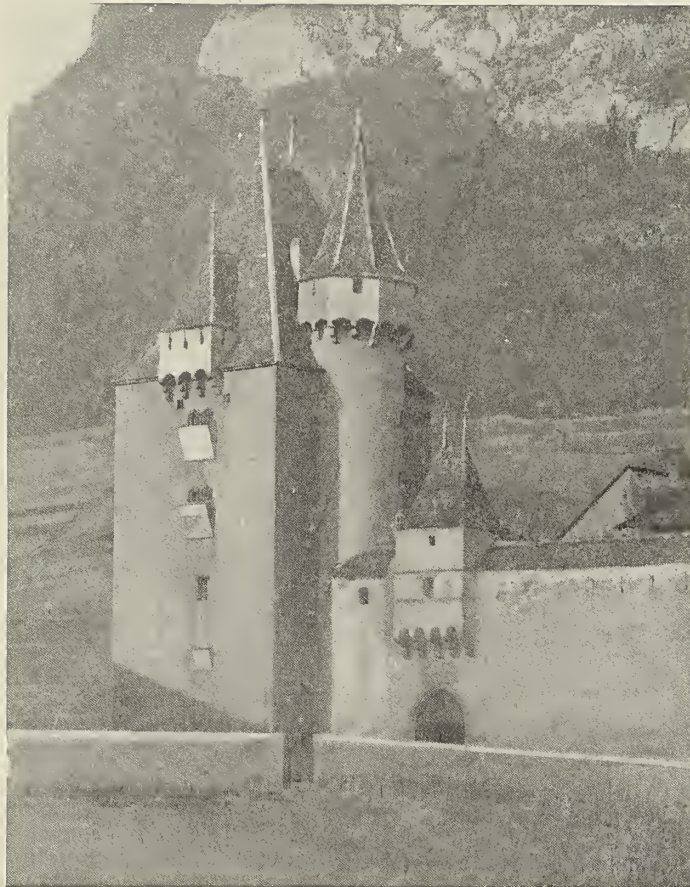


COW SHELTER ON THE ROCHERS DE NAYE

The Swiss Riviera



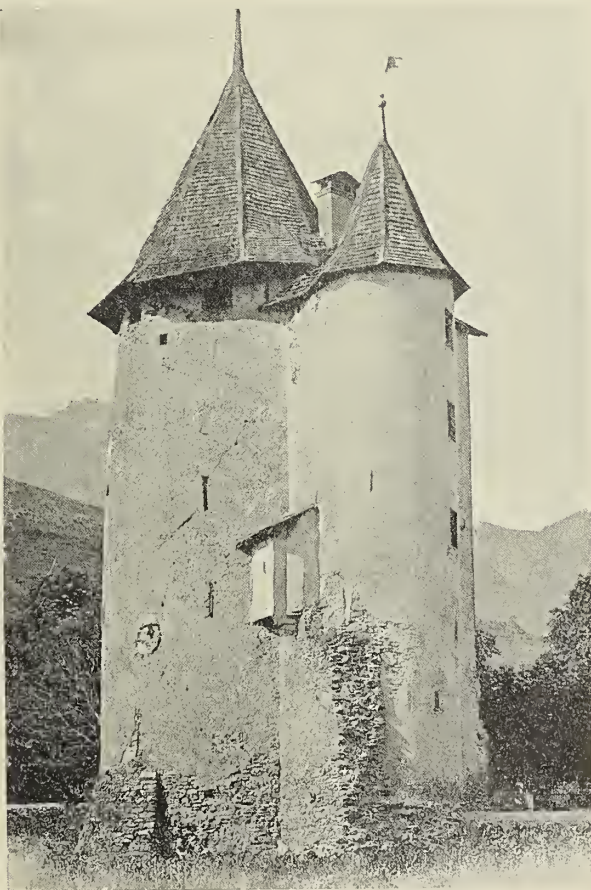
A FIELD OF NARCISSUS



A CORNER OF THE CHÂTEAU D'AIGLE

there is a *fête des Narcisses*, when all the peasants and townspeople join in processions, dances, and battles of flowers, using the narcissus as a decoration, and there are many thousands of francs given as prizes.

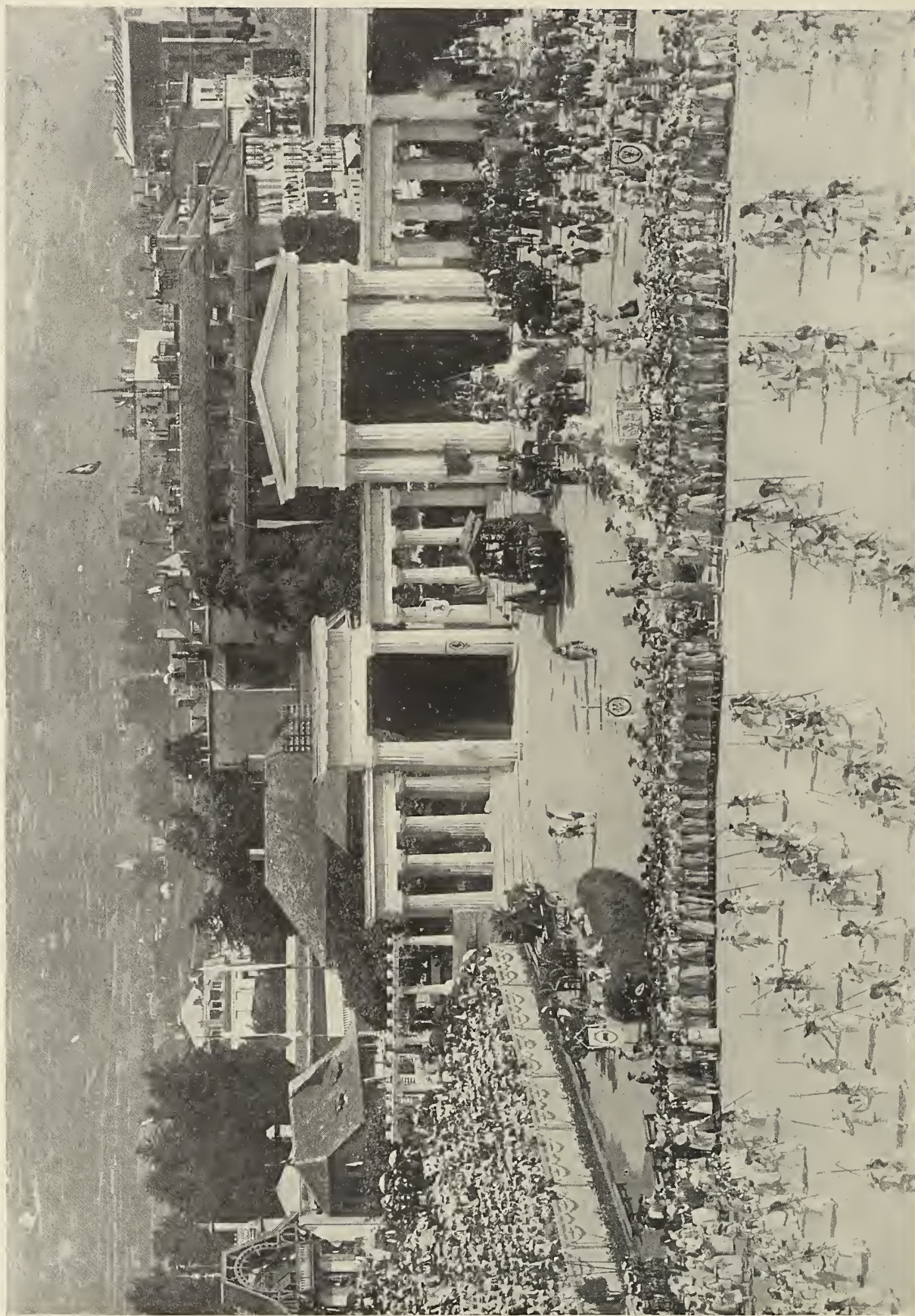
The level ground along the lake front is now mostly covered with small towns, villas and hotels, of the last of which there are eighty on the telephone list; but back of these and rising up the hill, are still the fine old vineyards. They are, however, every year being cut into for the purpose of new buildings. On a higher level are the hotels at Mont. Pellerin, Les Avants, Glion and Caux. The hotel at Caux is an immense affair, open all the year, but the principal season is winter, when the usual pastime is *leuging*, or in other words,



TOUR DES SORCIERS—SION

“bob-sledding.” The highest point of all the hills, *Les Rochers de Naye*, which is reached by cogwheel steam railway, is also crowned by a hotel.

This past summer, 1905, there was at Vevey a *fête des Vignerons*—a meeting of the “Brotherhood of Vine-growers,” which is held only every fifteen years. The origin is not definitely known, but it has existed in one form or another for about three and a half centuries. It is “an original and characteristic manifestation of the *génie* of the place. It is the *synthèse* and artistic glorification of agricultural labor, and more especially of the culture of the vine.” It is a great spectacular representation of the different seasons of the year, given by the peasants, showing their occupations in fields and



FÊTE OF THE VINE DRESSERS—VEVEY, AUGUST 4-12, 1905—THE SHEPHERDS' BALLET

The Swiss Riviera

vineyards. The style of the dances vary from the Greek Bacchanalian feast to the "falling of the autumn leaves," which latter dance is very suggestive of the modern skirt dance. The influence of the "cake-walk" has not as yet made its impression on the rustics of the Mountain Republic. The whole fête is very artistically done and very well carried out, and the music, which is written for the occasion, both vocal and instrumental, is excellent.

The architectural and historic interest of the neighborhood, of course, centres in the castle of Chillon, visited by Bonnivard, Byron and Baedeker, and each in his way helped



THE CHÂTEAU DE CHÂTELARD



THE VILLAGE AND CHÂTEAU OF AIGLE

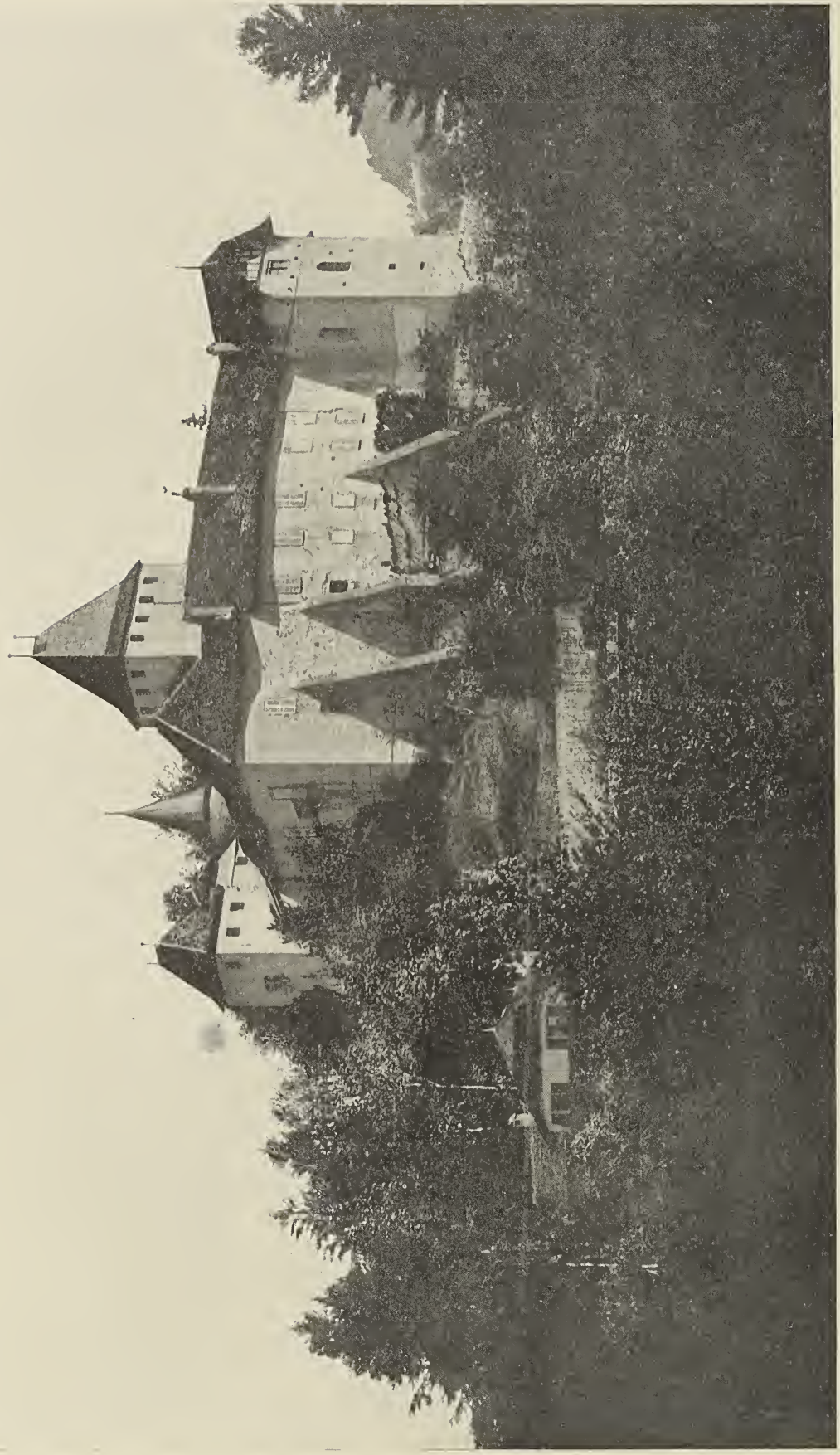
to bring it to public notice. In the year 1005 the château was the property of the Bishop of Sion, whose residential castle was a short distance up the Rhone valley, but the real importance of Chillon dates from the thirteenth century, when Peter of Savoie, surnamed the "Little Charlemagne," added the greater part of the Vaud to the House of Savoie. A great part of the present fortress was then added to what was before not much more than a tower. Chillon, to which was tied many of the surrounding noblemen, remained in the hands of the Dukes of Savoie until 1536, when it was taken by the Bernese, and with it the entire submission of the Vaud country. The

Bernese held the castle for two and a half centuries, until 1798, when it was retaken by the Vaudois almost without a struggle. Bonnivard, the hero of Chillon, was a rich young nobleman in the neighborhood of Geneva, who bravely risked himself and his fortune to aid the Vaudois to regain possession of their fortress, but was taken prisoner and confined in the fortress for six years prior to its fall.

At the beginning of the tenth century, the family of Blonay sought to create a private estate between Vevey and Villeneuve, but, torn on one side by the Bishop of Sion and on the other by the house of De La Vaux,



THE OUTER COURT—CHILLON



THE CHÂTEAU DE BLONAY

The Swiss Riviera

the sires of Blonay were not able to hold themselves as independent lords, so they attached themselves to the house of Savoie, who had other strongholds on the south side of the lake, and received from them high dignities in return for their constant fidelity. About the patrimonial manor, the old castle of Blonay, built 1175, clustered twenty villages which they controlled, and here they held their little court and lived surrounded by vassals, who in time of peace took part in their fêtes and hunts, and in times of war followed them to battle.

The conquest by the Bernese was a terrible blow to their importance; one branch of the family remained Catholic and Savoyard and continued near Evian; the other Reform and Vaudois, and resides in the château of Blonay.

Approaching the shore by boat the many new buildings are very conspicuous in the landscape, but few have the charm or interest equal to the small classical villa on the Isle de Clarens, standing out bright in the sunshine, which was recently built by Monsieur Chartran, the great French painter, recently better known in America by reason of his portraits of President Roosevelt and his family. Beautiful Chillon itself is, however, so softened by time, and so blends in with the landscape and its



MOUNTAIN SHEEP SEEKING SHADE

surroundings, that it at first escapes one's notice.

In the Middle Ages the lake was the great route for transportation, and during the wars between the lakeside states and because of the rivalries between the families, it was the scene of many bloody naval combats. The fleets of the princes, lords and *abbés* displayed their banners in the daytime, while during the night the brigands attacked the belated mariners for plunder. How great the contrast with the present time!



A Temple by the Lakeside



DOMES OF THE CAPITOL AT WASHINGTON FROM THE EAST

FREDERICK LAW OLMSTED AND HIS WORK

II. THE TERRACES AND LANDSCAPE WORK OF THE UNITED STATES CAPITOL AT WASHINGTON

BY JOHN NOLEN, M. A., (HARVARD)

MR. FREDERICK LAW OLMSTED was placed in charge of the improvement of the Capitol grounds at Washington by Act of Congress in 1874. His appointment was made upon the recommendation of Edward Clark, Architect of the Capitol, who had for a long time appreciated the need for extensive improvements in the area surrounding the great building. The task to which Mr. Olmsted was called was not an easy one. It presented very difficult problems in design,—problems in many respects different from what he or any one else in this country had hitherto been called upon to solve.

It is the aim of this article to set forth briefly these problems and then to see how they were met and mastered.

First of all the conditions must be understood. The Capitol building itself is finely situated on a hill ninety-five feet above the Potomac River, dominating the entire city with its great dome which

rises to a height of 288 feet. In length the building is 751 feet; in width it varies from 121 to 324 feet. The central section is of sandstone painted white and the two wings are of marble. The style is classic with Corinthian details. It is generally believed that the city was expected to spread to the east rather than to the west, and so the principal façade looks in the former direction. Early in the century Congress regarded the ground west of the Capitol as its "back yard," but through the improvements within the grounds and in the city generally it has become incomparably the nobler and more important front. From the hill upon which the Capitol stands fine views were commanded along the eleven avenues radiating from it, views that would naturally become more and more important with each passing year. Moreover, to the south and southwest the spectator could enjoy the rare beauty of the valley of the Potomac.

In earlier years the Capitol stood upon a much



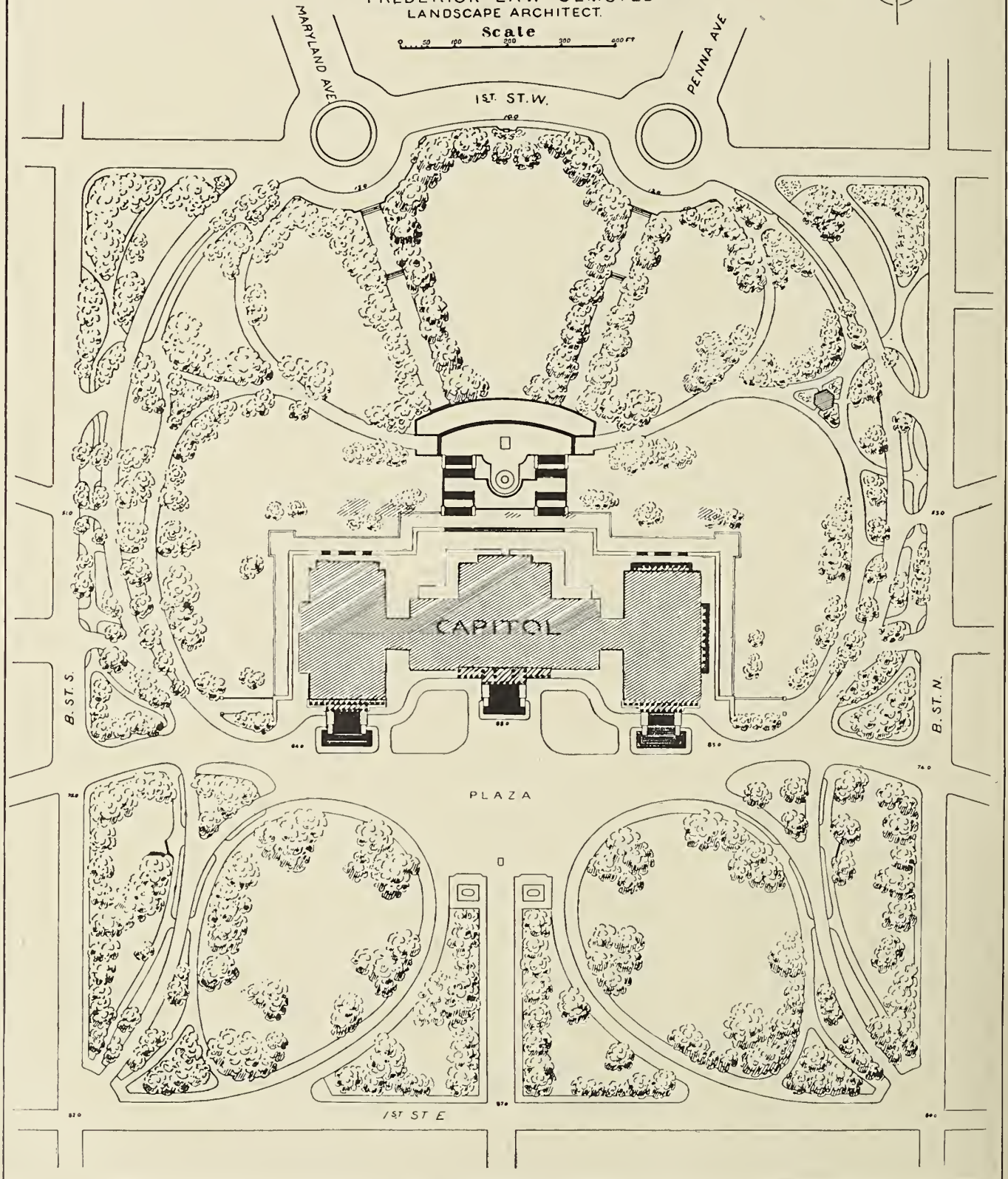
THE SOUTH LAWN AND TERRACE

GENERAL PLAN
FOR THE
IMPROVEMENT
OF THE
U.S. CAPITOL GROUNDS

FREDERICK LAW OLMSTED
LANDSCAPE ARCHITECT.

Scale

0 50 100 200 300 400 FT



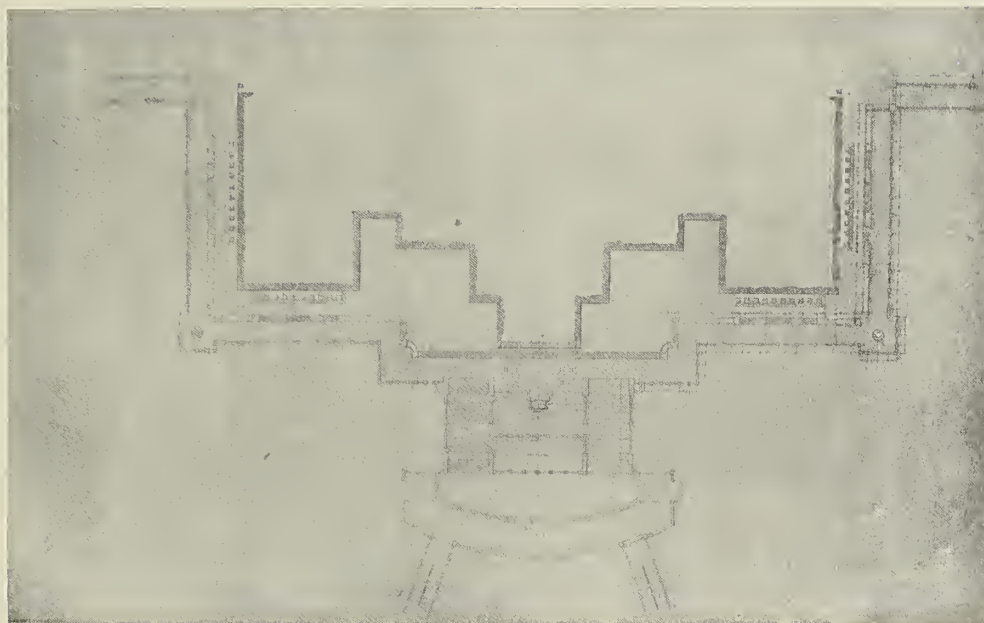
MR. OLMSTED'S PLAN

Frederick Law Olmsted and His Work

smaller plot of ground, but with the extensions to the buildings an additional area had been purchased, so that when Mr. Olmsted was appointed landscape architect there were some 50 acres to be treated. Before his appointment there had been no fixed policy with regard to the improvement of the grounds, and even the gardening, the mere planting and care of trees and plants, had had little intelligent attention. For example, in 1874 there was but one tree (the "Washington Elm") upon the grounds approaching a condition of tree majesty, and not a dozen trees of ten years healthy and unmutilated growth. Contrast the history of the building and the grounds.† The design of the building by a trained and experienced architect was begun in 1793, and was always in expert hands, yet it was four score years later before a similar consideration was given to the surroundings of the building. Here surely we find a notable illustration of Lord Bacon's quaint phrase "that when Ages grow to Civility and Elegancie, Men come to Build Stately, sooner than to Garden Finely."

The latitude of Washington is 39°. This, as we shall see later, was an important factor both in the plan and the planting. In summer the city was apt to be very hot and dry. Its principal use, however, is in the winter, for only occasionally does Congress remain in session during the hot summer

†For complete and well illustrated account of the Capitol see Glenn Brown's excellent work entitled "History of the United States Capitol." 2 vols.



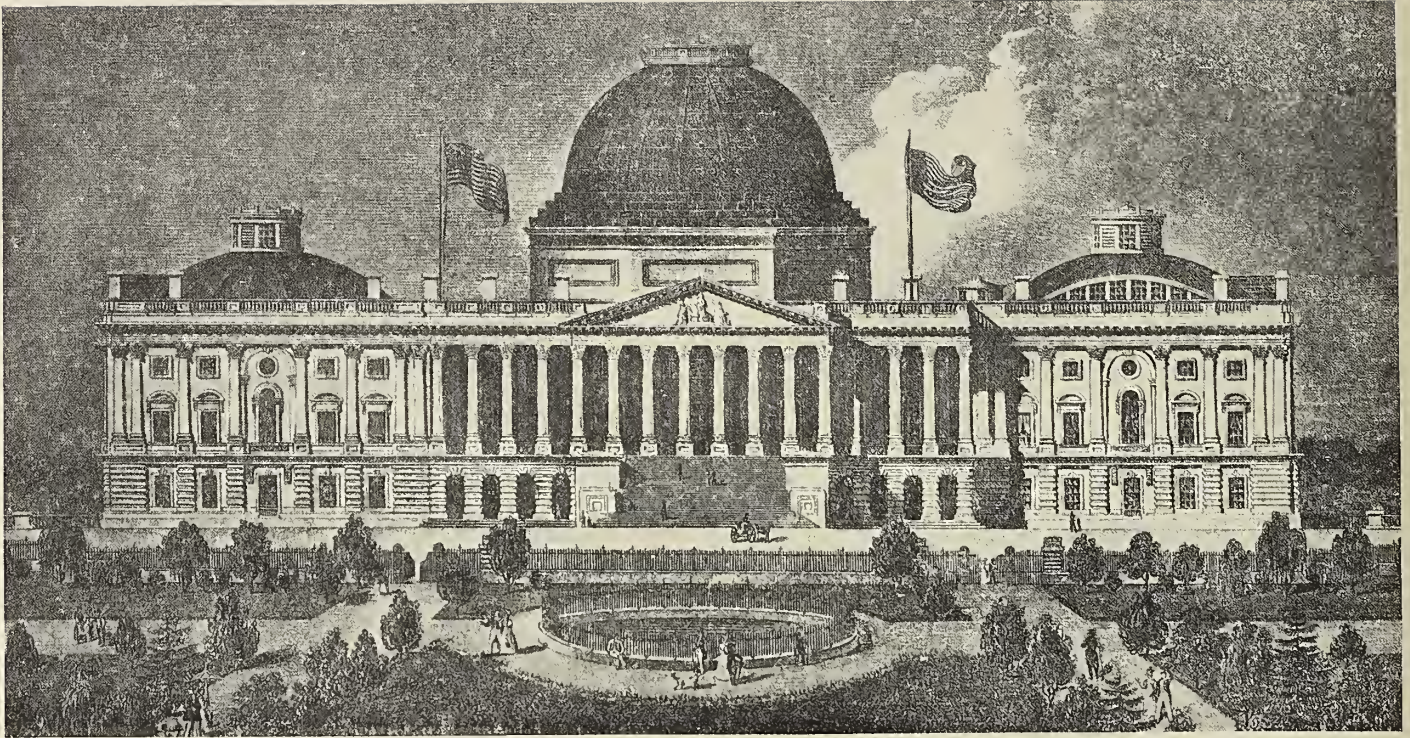
PLAN OF THE TERRACES AND WESTERN STAIRWAY

months, and when Congress is not in session the city is comparatively deserted. The social conditions affecting the Capitol grounds are unique, for these grounds form an important part of the governmental centre of a great and rich nation. It is natural, therefore, to expect that pride will be taken in their appearance. But public opinion thirty years ago was in no sense favorable to formal gardening. Although public taste permitted topiary work and artificial features to be inconsistently mixed with natural gardening schemes, it condemned formal gardening *per se* and all the grander and more essential aims of classic landscape design. The truth is there was then even less general familiarity with the aims of design out-of-doors than there is to-day. Ample funds were available for the improvement of the grounds in an appropriate manner. The building had already cost \$16,000,000. It was desired that the grounds and the surroundings of the building should be adequate in extent and suitable in treatment.

In brief, then, these were the conditions—physical, social and financial—that Mr. Olmsted as landscape architect had to accept as the basis for his work. It is now proper to inquire what aims he adopted as the controlling motives for his design. They were four: (1) To serve conveniently the business of Congress and other Government Departments. (2) To support and present to advantage the Capitol building itself as a great national monument, the greatest in fact that the nation possesses. (3) To preserve and enhance the vistas and views



SHRUBBERY AT THE BASE OF THE TERRACES



EAST FRONT OF CAPITOL, FROM A LITHOGRAPH OF 1830



PRESENT WEST FRONT

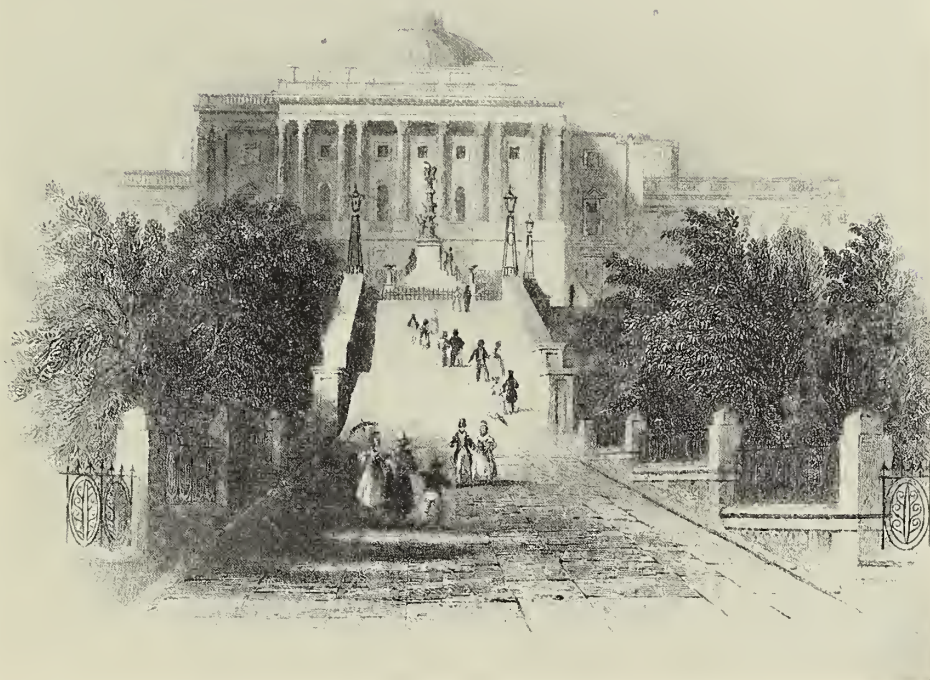
Frederick Law Olmsted and His Work



from the Capitol. (4) To incidentally provide a small but attractive public park, suitable for daily use by small numbers of people and on special occasions for great numbers,—such occasions, for example, as the inauguration of the president.

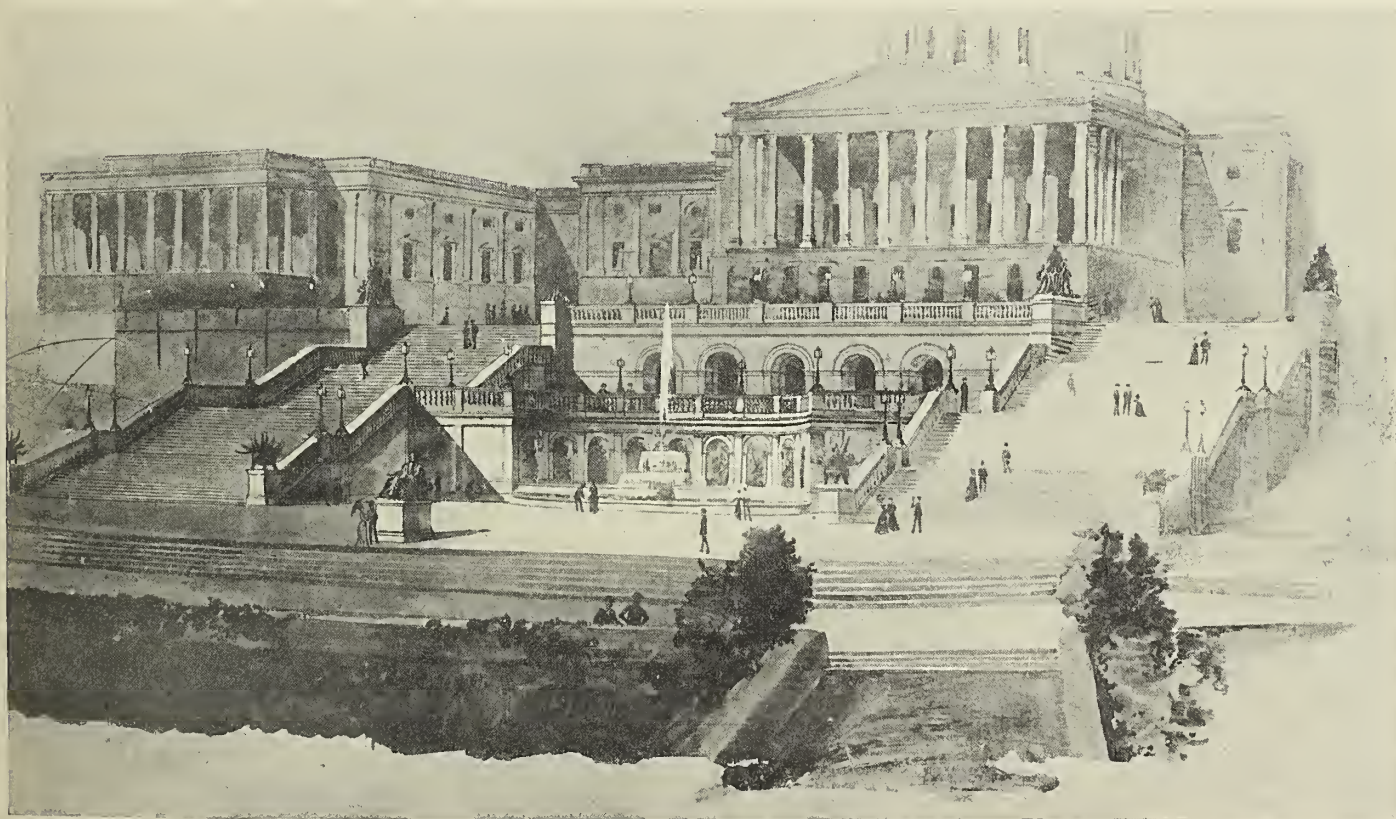
In adopting means for realizing these purposes, Mr. Olmsted dismissed at once a strictly formal treatment mainly, it seems, because of the unsympathetic public opinion already referred to. And on the other hand, he made no attempt to secure a broad landscape effect, such as one would expect to find in a rural park or a large private estate. Such a treatment if not indeed inappropriate was impracticable, for ready access to the different entrances to the building had to be supplied from the twenty-one streets by which the boundary of the grounds was to be reached from the city.

The number of foot and carriage entrances was therefore necessarily great, and as the total area to be crossed was but fifty acres, the composition of broad landscape effects was out of the question.



STEPS AND APPROACH TO THE OLD CAPITOL

Moreover there was the further complication of the hillside position of the building toward the west, necessitating steep grades on that side for all roads and paths.



THE WESTERN APPROACHES, FROM MR. OLMSTED'S PERSPECTIVE DRAWING



VIEW OF THE CAPITOL DOWN PENNSYLVANIA AVENUE, THE WHITE HOUSE IN THE FOREGROUND



VIEW OF THE MALL AND PENNSYLVANIA AVENUE FROM THE WEST FRONT OF THE CAPITOL

Frederick Law Olmsted and His Work

The general scheme which Mr. Olmsted proposed was original and happy. A plan showing its main features is here reproduced. It provides for convenience of approach by a natural and well devised system of drives and walks, so that the business of Congress and other departments of the National Government was well served. The principal drive-way is from the east and is 50 feet wide; the side drives are 25 feet wide. The main drive is rendered stately by rows of tulip trees on either side. Upon the west, on account of the heavy grades, there are no driveways, but the walks are of great width, especially those that prolong the lines of Pennsylvania and Maryland Avenues and lead directly to the building. These broad and impressive paths or sidewalks are lined with plane trees 30 feet apart in the row and 55 feet between rows.

To support the building and enhance its impression of stability and grandeur—the most important artistic problem of the design—Mr. Olmsted proposed a great terrace on the west side, and a plaza of appropriate area on the east side. The proposal of the terrace is but another illustration of Mr. Olmsted's genius, and it is more striking in that his tasks had hitherto been mainly in informal design. His large ability is thus unmistakably illustrated. He saw always what was fit; and what he believed in he advocated. It appears that no such terrace as he proposed had ever been constructed in this country before and his recommendation met only with firm and repeated opposition. In 1881, seven years after his appointment, we find him still



THE TERRACES FROM THE SOUTHWEST

strongly combatting this opposition. It then took the ground that the new construction would obscure the main walls of the building. To demonstrate that this objection was unsound poles with cross bars were set up to show what the proposed effect would be. As a matter of fact, amply demonstrated by the construction of the terraces, the main walls of the Capitol were not obscured; on the contrary the building was given a broader base and made to appear to rest naturally and firmly upon the ground. At last Mr. Olmsted overcame the opposition and active work on the terraces was begun in 1883; the stone construction was complete in 1890. The effect was (1) to close harmoniously the gap between the Capitol and the grounds and realize the merits of both, and (2) to add to the apparent height of the building and give it the appearance of possessing a stable foundation. These terraces are appropriately large. On the north and south axis they measure 850 feet; on the east and west, 269 feet. They are 28 feet above the ground at the stairway, and 20 feet at the north and south corners. They were to be in two parts, the division running midway between the building and the outer walls. The inner one is level with the foot of the steps coming from the portico; the outer one is four feet lower. The two levels are connected opposite the portico by flights of steps. Between them there is a channel or pit eight feet wide and four feet deep filled with soil. It was the intention to plant in this channel formal plants, an intention which unfortunately has never been carried out. The height of this terrace and its severe lines are relieved by heavy planting which almost completely surrounds it.

The broad paved plaza on the east, 100 feet or more in width and the full length of the building,



A NEARER VIEW OF THE WESTERN STEPS



THE CAPITOL FROM THE SOUTHEAST, SHOWING THE PRESENT PLAZA

Frederick Law Olmsted and His Work

is an equally appropriate treatment for that front, besides being of decided utility on public occasions. It possesses dignity and simplicity. These effects are produced by happy proportions and a judicious placing of architectural objects and trees.

The planting in general has been skilfully planned so as to preserve and enhance the best views of the building and so fulfil the third purpose of the design. As a result the visitor can enjoy direct front views of the central portion and dome from opposite sides, and agreeable diagonal views of the entire east and west fronts from four different points. Not only were the grounds designed so as to preserve good views of the Capitol building, but also to keep the fine vistas and views *from* the building, views of the main city avenues and related buildings, and up and down and across the valley of the Potomac. This was achieved by a thoughtful location of drives and walks and by intelligent control of the planting. By itself this would not have been difficult to accomplish, but the hot climate of Washington made general umbrageousness desirable, and to combine open views with sufficient verdure and shade was not so simple a matter. Moreover, the broad paved spaces necessary for use led to disjointedness, but this disjointedness was lessened by selecting trees that would grow together in groups,—monotony being avoided and variety and vivacity secured in the shrubbery and smaller plants.

The consideration of the planting in connection with the views brings us to the fourth purpose of the design, viz: the making of a small city park. The extensive paved plaza and the unusual number and width of drives and walks were unfavorable to a park-like effect but barring these there was nothing in the treatment of the grounds for the other purposes that rendered them unsuitable



THE WESTERN LAWN

for profitable use as a park. It simply remained to carry the planting further and establish certain park features. The climate of Washington permits of a most unusual range of vegetation, numerous woody plants not hardy to the North flourishing there and some not common to the South except at considerable elevations. It also appears hospitable to a larger number of foreign plants than the climate of most other parts of this country. A study of the planting reveals five main aims: (1) the preservation of broad and effective lawns. It is astonishing that the other purposes of the de-

House and Garden

sign could be so perfectly served—for they were considered as primary—and so much attractive lawn be retained, as the illustrations herewith given show. (2) The use of trees in ample and yet in restrained variety. A selected representative list of species follows: maples, horse-chestnuts, birches, chestnuts, catalpas, redbud, yellowwood, flowering dogwood, crataegus, persimmon, beech, ash, both sweet- and sour-gum, tulip, magnolia (in great variety), mulberry, hop-hornbeam, plane, poplar, oaks, lindens, elms. (3) The selection of shrubbery for foliage, form and size, rather than for bloom,—such shrubs for example as aralia, azaleas, barberries, cornels, hazel, euonymus, forsythia, althea, ilex, privets, buckthorn, sumachs, elders, spireas, lilacs and viburnums. (4) The final feature of the planting was the large use as a ground cover, in many places instead of turf, of creepers and low perennials. These plants stand the summer heat and drought of Washington better than grass and also serve to connect and merge higher foliage with the verdure of the lawns.

There would have been something peculiarly fitting in using only native American plants in the Capitol grounds, although such a policy would, of course, have lessened decidedly their ornamental character. Therefore, it may be reasonably questioned whether the interest and instructiveness of such a policy would have been sufficient to justify it. A good compromise might have been had in the use of native plants predominatingly, adding only comparatively few foreign plants for the sake of variety. As it is, of the 225 species listed in the report for 1882, a majority are of foreign origin. It is probable, however, that the American plants were used in larger quantities.

The only special features incident to the park character of the grounds that Mr. Olmsted added were the Grotto and the Summer-house. The grotto was an odd conception. Mr. Olmsted plan-



FOUNTAIN AT EAST END OF GROUNDS, TYPICAL OF AMERICAN DECORATIVE DESIGN IN THE EARLY '70's

ned it as a convenient place of relief for Congressmen from the stress, turmoil and excitement of legislative life. In support of this view it must be remembered that it was constructed prior to the days of rapid transit, before it was possible to travel quickly and easily to really peaceful rural surroundings. The grotto appears never to have been a success, nor to have accomplished even in a measure what its designer hoped for. Its appropriateness also may be reasonably questioned. The summer-house meets more successfully a normal human need. It provides a place where people can rest in passing up Capitol Hill from Pennsylvania Avenue, and it answers as a shelter from storm. Altogether it may be said that without sacrificing the essential features of the design, the grounds have been made genuinely serviceable for use as a city park of a very attractive and convenient type.

In conclusion there are three general considerations that appear worthy of mention. (1) The architectural features of the grounds—the walls, balustrades, lanterns, lamp-posts, etc.—are not in harmony with the Capitol nor are they of good design in themselves. They were designed in an unfortunate period in architectural history in this country, when classic motives were disregarded and unity and harmony ignored. The fountain



STEPS IN THE LOWER WALK

Frederick Law Olmsted and His Work

on the west of the grounds is one of the most unfortunate examples. (2) The very small use made of water in fountains, pools and cascades is to be regretted. The formal character of the design, the topography of the grounds, and especially the climate of Washington, all appear to unite in a justification, if indeed not a demand for a much greater use of water. What might have been done in this direction can in a measure be realized by recalling the happy and effective designs for fountains, water-basins, etc. and the way in which they are employed in Paris, Rome and other European cities. (3) Assuming for the moment that public opinion



THE GROTTO

called for a grander and more elaborate treatment. The problems of convenient approaches, views and shade could probably have been successfully solved. The standards for suggestive treatment would have been found in the classic Italian villas of the Renaissance and in the best of the French designs

was not hostile to it, would not an even more formal and architectural treatment have been possible and appropriate, at least for the western half of the grounds? It would seem that the noble architecture of the Capitol, the natural slope of the ground on the west (grade of about 10%) and the importance of the building and its grounds in the plan of the city,



VIEW OF THE POTOMAC AS SEEN THROUGH ONE OF THE CAPITOL VISTAS PLANNED BY MR. OLMSTED



VIEW OF THE CAPITOL AND THE MALL FROM THE MONUMENT

at the time of Le Notre. Such treatment would also have made the Capitol grounds a more appropriate central feature for the "Twentieth Century Washington" now being advocated by the Park Commission.* There is reasonable hope that the improvement of the city of Washington will be the principal artistic achievement of the next hundred years. The conditions are more than ready; they are propitious; the nation is rich, the people are awakening to the value of art, and the consideration of the plan is in the hands of men who are masters in their several professions. It is impossible to believe that through the ignorance, shortsightedness or obstinacy of a few, such an opportunity will be lost. If it is not lost it will be in no small measure because Frederick Law Olmsted, in his time and generation, and in his field, contributed to the Capitol grounds all

of good art that the public mind was then prepared to support. Thus he has, as landscape architect of the United States Capitol during its most critical period, won for himself a permanent place as a leader, not only in informal but also in formal design.† His position, therefore, in the art history of this country is unique.

* See "The Improvement of the Park System of the District of Columbia," edited by Charles Moore, 1902. Also "HOUSE AND GARDEN," February, 1902,—"The Twentieth Century Washington," by Glenn Brown.

† "The wisdom shown in the selection of Frederick Law Olmsted has been proved by the broad, imposing, as well as pleasing effect recognized by all who view the finished results. The dignity and effectiveness of the Capitol might so easily have been spoiled by a man of moderate capacity that it is cause for congratulation that the one capable man, probably, in the country at that date, was chosen for this important work. The selection of Thornton for the original design, Walter for the extension, and Olmsted for the final landscape work has produced most happy results." (Glenn Brown's *History of the U. S. Capitol*, II, page 168.)

“A SHELF OF OLD GARDENING BOOKS”

BY P. H. DITCHFIELD, M.A., F.S.A.

THE gardener loves his books, as well as his flowers; and when the wintry snow falls fast he likes to pile the oak logs higher in his study grate, and reach down those inviting old volumes which tell him of the garden-lovers of old time, and try to understand their manners, thoughts and methods. On this shelf we shall discover many old friends whose forms and faces are familiar, and here and there make new acquaintances who are not wholly to be despised.

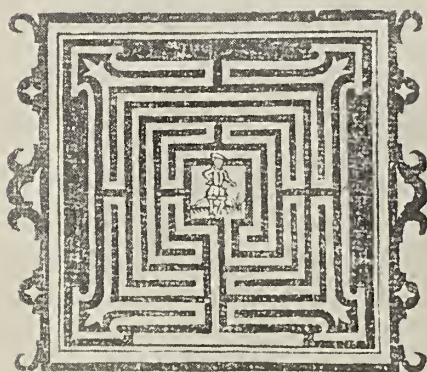
Here is the first regular treatise on gardening, written by one Thomas Hill, who was born within the sound of Bow Bells, but lived at a time when London houses had gardens, and long before excessive smoke made it difficult for flowers to raise their heads and preserve their complexions. This copy is printed in black letter, and bears the date 1560. Alas! it lacks the title page, and some wretch has cut out one of the quaint figures of a maze which the author declares to be “proper adournments upon pleasure to a garden—for the only purpose to sporte them at times. For Mazes and knottes aptly made, do much set forth a garden, which nevertheless I referre to your discretion, for that not all persons be of the like abilitie.”

Happily one of the figures of a maze has been spared and is here introduced. Mazes were once an ordinary feature of old-fashioned gardens, and were not confined to such historic grounds as those of Hampton Court. Kitchen herbs often flourished in the divers borders of a maze, which was therefore intended to be useful as well as ornamental. In a subsequent work, the “Gardener’s Labyrinth,” our author returned to the study of the maze. This work was published after his death in 1577, by Henry Dethicke.

Hill’s book is not a very perfect work, but it certainly marked an advance in horticultural knowledge. He writes of “the pleasure very delectable through the delight of walking in a garden, which both giveth health to man’s body and recoverie of strength after long sickness by commoditie of taking fresh ayre and sweet smell of the flowers in the same.” He recommends that the garden should be on a slope with courses of water flowing through it. He tells us “how a garden may divers wayes be fenced and enclosed, and the manner and secret of making a lively and strong hedge,” recommending one composed of briars and thorns.



LONGFORD CASTLE AND GARDEN



And here I also place the other Maze, which may be like ordered and used, as I spake before, and it may eyther be set with scope and Lime, or with winter Sauery and Tyne: For these doe well endure, at the winter through greene. And there be some which set their Mazes with Lauender Cotten, Spike, Maierome, and such like. But let them be ordered in this poynt, as liketh best the Cardener, and so an ende. For I do not here set forth this, or the other Maze afore expressed, for any necessarie commoditie in a Garden, but rather appoint eyther of these (which liketh you best) as a beautifying vnto your Garden: For that Mazes and knottes aptly made, do much set forth a Garden, which neuer thelesse I referre to your discretion, for that not all persons be of like abilitie.

¶ Certaine precepts, and rules of auncient men, both in the choyse and proper sowing of seedes. Cap. viij.

The Garden, as Palladius writeth, is biche lyeth vnder a gentle and helesome aye, and hath a fountaine, spring, or swete water running by it, is in a maner good enough of it selfe, and needeth

A MAZE FROM HILL'S "ARTE OF GARDENING"

Rules for sowing, planting, and grafting are given, and "for the ordering, care and secrets" of many flowers and vegetables.

Faith in astrology as regards gardening operations was not yet dead, and survived to a much later period. A fifteenth century manuscript tells us what we should do under various signs of the zodiac, and Hill quotes Palladius to prove that "the organy should be set in the moneth of September about the entring of the Sunne into the signe Libra." This early manuscript shows that our forefathers loved novelties, and tells us how to grow cherries without stones and peaches without kernels, and pomegranates on peach-trees, and a coin or gem inside a pear.

If you want your white lilies to bear red flowers, you must pour the fine powder of red vermillion or red lead between the rind and the small heads; and thus green and blue lilies may be produced by this dyeing process. This peculiar method is not usually adopted by modern gardeners.



MISS MITFORD

From the portrait by John Lucas, in the National Portrait Gallery



SIR FRANCIS BACON

He states also that in the ordering and care of cummin, "some authors write that the seedes prosper better and growe the plentifuler if they be sown with cursed words."

"Off talys and tryfulls many man tellys,
Sume be trew, and sume byn ellis,"

as the old bards sang in the baron's hall.

Tusser's "Five Hundred Points of Good Husbandry, as well for the Campagne and Open Country, as for the Woodlands," (London, 1557) can hardly be called a gardener's manual, but he tells us how to plant a hop-garden. Here is a specimen of his homely verse:

"Whom fancy persuadeth among other crops,
To have for his spending sufficient of hops,
Must willingly follow, of choices to choose,
Such lessons approved, as skillful to use."

We need not follow his directions further. This passage on Housewifely Physic has an old garden flavor:

"Good huswife provides, ere a sickness do come,
Of sundry good things in her house to have some,
Good aqua composita and vinegar tart,

"A Shelf of Old Gardening Books"



HAM HOUSE, RICHMOND

Rosewater and treacle, to comfort thine heart;
Cold herbs in her garden for agues that burn,
That over-strong heat to good temper may turn;
White endive and succory and spinach enow,
All such with good pot-herbs should follow the plough.
Get water of fermitory, liver to cool,
And others the like, or else lie like a fool.
Conserves of barbary, quinces and such,
With sirops that easeth the sickly so much."

English gardens bloomed afresh in the days of Queen Bess, when the gallant sea-dogs of Devon and other seaboard counties scoured the Spanish main, and bore back from distant shores rare plants unknown to our English florists. America and the West Indies did good service to our English gardens, and gave us many of their treasures; but the craze for gardening books was not yet, and few wrote about them.

And now let us glance at Bacon's Essay "Of Gardens," which contains the earliest Gardener's Calendar. What a wonderful array it is! And here is his *Sylva Sylvarum*, which shows what a keen interest the great philosopher took in rural affairs. Here he shows his pleasure and delight.

"God Almighty first planted a garden. And indeed it is the purest of Human Pleasures. It is the greatest Refreshment to the spirits of Man; without which Buildings and Palaces are but gross Handy-works."

He holds that there should be gardens for all the months of the year, in which Things of Beauty may be seen in Season; and thus you may have the

Golden Age again, and a Spring all the year long. How Bacon loved the Breath of Flowers, and carefully selected those that gave the sweetest scent. He gives the palm to the Violet, especially the White double Violet, which comes twice a year. The Musk Rose he loved, and the strawberry leaves dying with a most excellent cordial smell. The flower of the vines, Sweet Briar, Wallflower, to be set under a Parlour window, Pinks, Gillyflowers, Honey Suckles are all commended. But those which perfume the air most delightfully, not passed by as the rest, but being trodden upon and crushed are three: that is Burnet, Wild Thyme, and Water-Mints. "Therefore you are to set whole Alleys of them, to have the pleasure when you walk or tread."

Bacon loved a long expanse of lawn, since nothing is more pleasant to the eye than green grass kept finely shorn. In order not to have to walk in the heat of the sun, you should plant a covered alley upon carpenter's work, about twelve feet high, covered with creepers. Here he makes the first protest against undue formality:

"As for knots or figures, with divers coloured earths—they are but toys—you may see as good sights many times in tarts."

Perhaps we should not admire the introduction into our gardens of broad plates of round colored glass for the sun to play upon. I have seen such in the garden of Goethe's house at Hildersheim, but they

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seem vulgar and villa-ish. When Bacon was censuring such "toys," they were rather coming into fashion, nor did his vindication of true taste suppress the use of such artifices. Bacon liked not the tonsorial art, images cut out in juniper or other garden stuff. "They are for children." Fountains are a great beauty, but the water is never to become stagnant. And what a delightful spot is the Heath with its natural wildness, wherein grow the sweetbriar, honeysuckle and wild vine, the ground set with violets, strawberries and primroses. And how beautiful are the mounds set with wild thyme, pinks, germander, periwinkles, violets, cowslips, daisies, red roses, *lilium convallium* and sweet-williams.

Here is a copy of Bacon's *Sylva Sylvarum*, giving an account of his numerous experiments in horticulture, and we are struck by his minute and affectionate attention to all the details of the garden, and his wide sympathy with the beauties and wonders of Nature.

You have in your hand the "Diary" of the learned Evelyn. See how lovingly he described the gardens which he visited both at home and abroad. The palace-gardens of Genoa, with their wonderful reservoirs of water, their grottoes and statuary, oranges, citrons, pomegranates and fountains astonish him

greatly, and the strange devices at Frascati, Cardinal Aldobrandini's villa—where he saw "an artificial grotto wherein are curious rocks, hydraulic organs, and all sorts of singing birds moving and chirping by force of the water, with several other pageants and surprising inventions." In the centre of one of the rooms he saw "a copper ball that continually daunces about 3 foote above the pavement by virtue of a wind conveyed secretly to a hole beneath it; with many other devices to wett the unwary spectators, so that one can hardly step without wetting to the skin. In one of these theatres of water is an Atlas spouting up the streame to a very great height; and another monster makes a terrible roaring with an horn; but above all, the representation of a storm is most naturall, with such fury of raine, wind and thunder as one would imagine oneself in some extreame tempest. The garden has excellent walks and shady groves, abundance of rare fruit, oranges, lemons, etc., and the goodly prospect of Rome, above all description, so as I do not wonder that Cicero and others have celebrated the place with such encomiums."

Evelyn introduced to England "The French Gardener" in an English dress in 1658. It is a very



JOHN EVELYN, FROM THE "DIARY"



JOHN MILTON

“A Shelf of Old Gardening Books”



ALEXANDER POPE



HORACE WALPOLE

charming book, and loses nothing by its translation. His catalogue of fruit trees is curious and interesting. He also devotes much space to the directions for pickling, preserving, and candying fruits, though a lady friend, a person of quality, assured the author that there was “nothing extraordinary amongst them, but what the fair sex do infinitely exceed, whenever they please to divertise themselves in that sweet employment.” In 1664, he published his “*Sylva, or a Discourse of Forest Trees and Pomona, or an Appendix concerning Fruit Trees, in relation to Cider,*” and the *Kalendarium Hortense*, “or Gardener’s Almanac, Directing what he is to do monthly throughout the year.” This Calendar is, with the exception of Bacon’s essay, the earliest of the many manuals which have been published containing directions with regard to the management of gardens. It is an attractive book, wherein the charming personality of the writer is enshrined; and he tells us much about jessamine, laurel and hollies, and the fair denizens of our woods and how to prune and propagate them.

Side by side with Evelyn’s book, I keep Cowley’s poems. The two authors were friends, so their works shall lie together. Cowley, writing “to J. Evelyn, Esquire,” says, “I never had any other desire so strong, and so like to covetousness, as that

one which I have had always, that I might be master at last of a small house and large garden with every moderate conveniences joined to them, and there dedicate the remainder of my life only to the culture of them and the study of nature. And there (with no design beyond my wall) whole and entire to lie, in no unactive ease and no unglorious poverty. * * * I know nobody that possesses more private happiness than you do in your garden, and yet no man who makes his happiness more public by a free communication of the art and knowledge of it to others.”

Cowley’s whole poem on “the Garden” is full of beautiful thought and the sweet love of Nature’s beauty. Was it Johnson who said, “there is more sense in a line of Cowley than in a page of Pope”? Other poets may be read, Cowley must be studied. Here is noble verse:

“Oh blessed shades! Oh, gentle, cool retreat
From all the immoderate heat,
In which the frantic world does burn and sweat.
* * * * *
The birds that dance from bough to bough
And sing above in every tree,
Are not from fears and cares more free
Than we who lie, or sit, or walk below,
And should by right be singers too.”

Here speaks the true lover of the country:

“Who that has reason and his smell
Would not among roses and jasmine dwell,
Rather than all his spirits choke
With exhalations of dirt and smoke.”

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and he makes Diocletian say to the ambassadors who were enticing him to a throne,

"If I, my friends, 'said he,' should to you show
All the delights which in these gardens glow;
'Tis likelier much that you should with me stay,
Than 'tis that you should carry me away."

Cowley's love for gardens, trees and fountains was natural and sincere. He had the "inward eye which is the bliss of solitude," and discovered in the meanest flower or weed by the hedge-row

"Thoughts that do often lie too deep for tears."

Here is an old volume of the evergreen "Gentleman's Magazine," which contains a chapter on old gardens. The writer mentions Hollar's engraving of Boscobel, Lord Arundel's seat in Surrey, the delicious pleasure-grounds of Sir Matthew Decker on Richmond Green, where the pineapple was first brought to perfection; Biddington, the place of the Carews, and the home of the earliest orange-tree planted in England, and Ham House on the banks of the Thames, shaded by spreading elms, which Evelyn describes with its parterres, orangeries, groves, fountains and aviaries. Miss Mitford, the charming authoress of "Our Village," who lived a few miles from where I am writing, has also sketched Ham House:

"It is a perfect model of the mansion of the last century, with its dark, shadowy front, its steps and terraces, its marble basins, and its deep, silent court. Harlow Place must have been such an abode of stateliness and seclusion. These iron gates seem to have been erected for no other purpose than to divide Lovelace from Clarissa—they look so stern and unrelenting. If there are any Clarissas now-a-days, they would be found at Ham House. And the keeping is so perfect. The very flowers are old-fashioned—no American borders, no kalmias or azaleas, or magnolias, or such heathen shrubs. No flimsy China roses. Nothing new-fangled. None but flowers of the olden time, arranged in gay, formal knots, staid and trim, and regular, and without a leaf awry." A good description truly of a perfect garden.

Milton's *Paradise Lost* is not often regarded as a gardening book, but in his description of Eden we find a fairly accurate picture of the gardens of England in his day. He tells of "groves whose rich

trees wept odorous gums and balm," flowers of all hues and "without thorn the rose," of lawns, or level downs, umbrageous grots and caves, of cool recess covered with mantling vine, of murmuring waters, lakes with fringed bank, with myrtle crowned reflected in the crystal mirror. He tells of wondrous flowers:

"which not nice art
In beds and curious knots, but nature born
Poured forth profuse on hill and dale and plain."

A wonderfully beautiful garden which Horace Walpole recognizes as a glorified Hagley, or Stourhead, or as a poetical description of the royal grounds of Theobalds and Nonsuch.

Sir William Temple was a notable gardener, and writer of garden literature. Here is his essay, "Upon the Gardens of Epicurus, or Gardening in the year 1685," which, after "much rambling into ancient times and remote places," tells of the present way and humor of our gardening in England which seems to have grown into such vogue and to have been so mightily improved in three or four and twenty years of His Majesty's reign, that perhaps few countries are before us, either in the elegance of our gardens or in the number of our plants; and I believe none equals us in the variety of fruits which may justly be called food; and from the earliest cherry and strawberry, to the last apples and pears, may furnish every day of the circling year. Temple's garden, at Sheen, was the wonder of the age, but he says that "the perfectest figure of a garden I ever saw, at home or abroad, was that of Moor Park in Hertfordshire," made by the famous Countess of Bedford.

Pope, who began his literary life a few miles from where we are sitting—is not Pope's Wood at Binfield named after him? and is there not a tree standing with the inscription, "Here Pope sang?"—planted a fair garden at Twickenham. See, here is his letter to Richardson, whither in the freshness of a summer morning, he invites his friend to pass the day among its shades, and "as much of the night as a fine moon allows." From the noon-tide heat he retreats into his grotto, fit haunt of poetry and wood nymphs. Sails gliding up and down the river cast a faint, vanishing gleam through a sloping arcade of trees. As the sun sets behind the branches, his



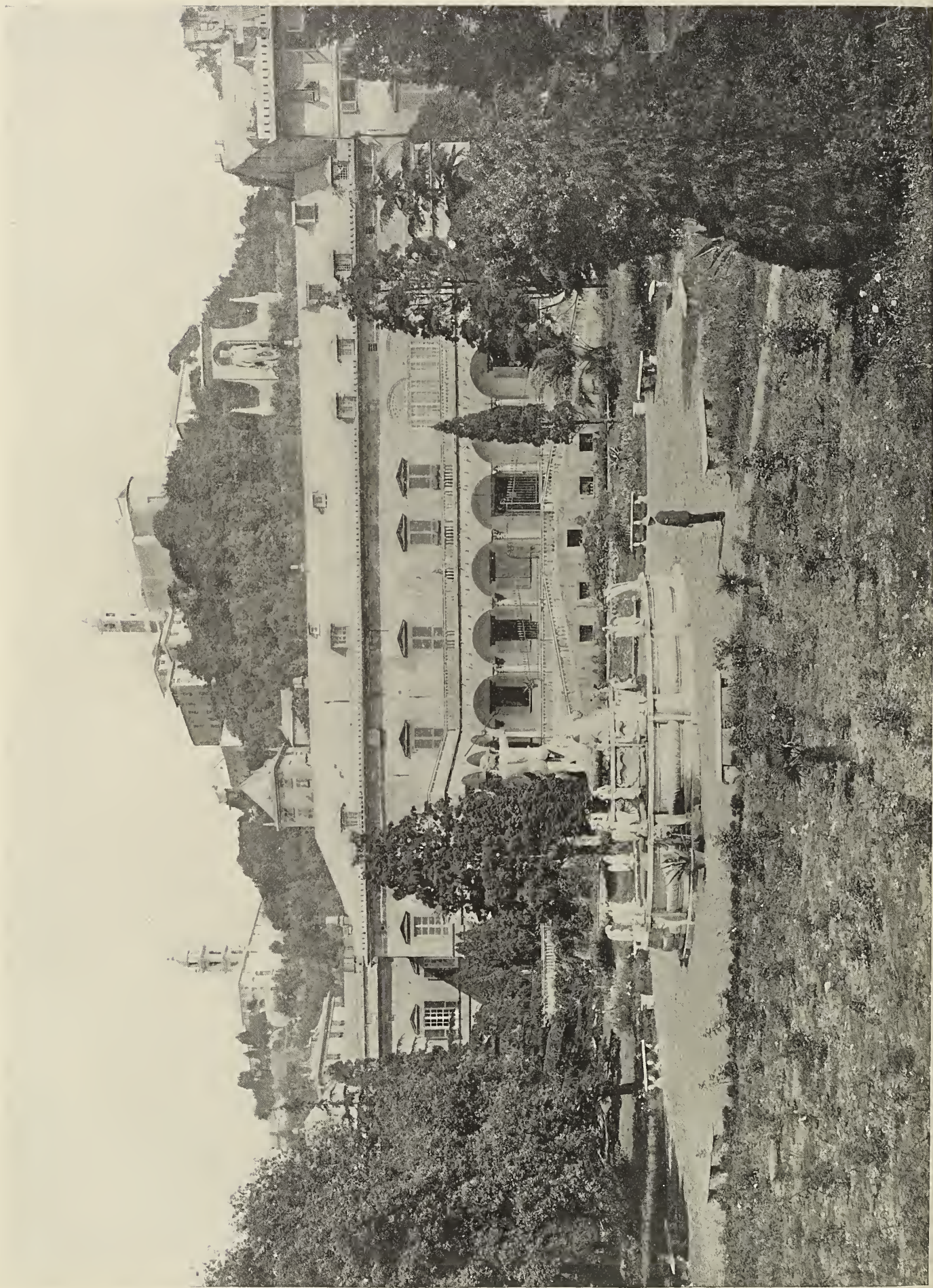
SIR WILLIAM TEMPLE



GARDEN AND TERRACES AT BOWOOD HOUSE



TISBURY OLD HOUSE AND THE SUNKEN GARDEN



A GENOESE GARDEN — PALAZZO DORIA



GARDEN AT HEYTHROP HOUSE, CHIPPING NORTON

terrace tempts him abroad. The river in all its glory flows at his feet, as Thomson sings:

—"the silver Thames first rural grows,
Fair winding up to where the Muses haunt,
In Twit'nam's bowers."

Pope's garden was not a large one—only five acres; but in this space he had a delightful flower garden, which he tended with his own hands, an orangery, bowling-green and vineyard. There he loved to entertain his friends, and many a feast of wit was spread beneath those rural shades which the poet loved so well.

No library of gardening books is complete without Horace Walpole's "Essay on Modern Gardening," (1785) in which he glories in his rich acquaintances quite as much as in his flower-beds. As a lover of the old English formal garden, and as a scorner of the hateful devastating crew of landscape-gardeners, Bridgman, Kent, and above all, "Capability" Brown, I cannot treat with patience the writing of Walpole, who paved the way for their detestable enormities. He pours scorn on "the measured walk, the *quincunx* and the *etoile*," imposing their unsatisfying sceneries on our royal and noble gardens. Trees

were headed, and their sides pared away; many French groves seem green chests set upon green poles. Seats of marble, arbours and summer houses terminated every vista, and symmetry, even when the space was too large to permit its being remarked at our view, was so essential that, as Pope observed:

"Each alley has a brother,
And half the garden just reflects the other."

Happily, his taste for formal gardens was not killed by Walpole's diatribes, and modern eyes appreciate their beauties.

I have here a curious old gardening book, called the "Systema Horticultura, or the Art of Gardening," by J. Woolridge, gent: published at the Harrow over against the Inner Temple Gate in Fleet Street in 1688. There was an earlier edition in 1677. This is the earliest manual for the forming and cultivating gardens, and tells us much about the treatment and virtue of different soils: the form of the ground, giving two delightful plates of the round and square gardens; the erection of arbors and summer-houses, garden seats and benches; and much about dials, and how to grow flowers and fruit trees. Here speaks the true garden lover:

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"A garden of pleasant avenues, walks, Fruits, Flowers, grotts and other Branches springing from it, well composed, is the only compleat and permanent inanimate object of delight the world affords, ever complying with our various and mutable minds, feeding us, and supplying our Fancies with daily novels. All curious pieces of architecture, Limning, Painting, or whatever else that seem pleasant to the eye and other senses at first sight or apprehension, at length become dull by too long acquaintance with them. But the pleasures of a garden are every day renewed with the approaching Aurora."

Has the world changed since the days of Master John Woolridge? He writes: "In the country, in many places, Ignorance, Sloth, and Envy, are great impediments to the way of Improvement; no country in the world being without some persons fraught with lazy, envious Humours. Therefore we cannot be exempt from them, the best of Airs naturally nourishing the worst of animals, and the best of gardens naturally producing the worst weeds."

"As for slothful men, they are the greatest burthen to themselves; but envious men, although they are

so great an affliction to themselves, yet are they also the worst neighbours to good Husbandry, not only to the constant depraving the endeavours and ingenuity of the industrious, but using all means they can to impede or prevent their prosperity. Like unto him that poisoned the Flowers in his own garden, because his neighbour's Bees should get no more Honey from them."

With the wise saws of Master Woolridge we will close our books, and look out upon the world of Nature clad in its wintry covering. The snow has ceased to fall, and the sun is shining brightly upon the trees decked with glistening whiteness.

"Now is the time
To visit Nature in her grand attire,"

as the old Scottish poet Grahame in his "Sabbath" manfully asserts. The robin is waiting for his crumbs, and all the tiny fluffs of feathered life are all expectant. Soon the reign of your tyrant winter will be over; soon the sun will bring us back our flowers, which delight us more than even a whole shelf of gardening books.

WINDOW AND VERANDA BOXES

HOW TO BE SUCCESSFUL WITH THEM

BY EBEN E. REXFORD

WHEN a window-box, or what amounts to the same thing, the flower-box in which we attempt to grow a few flowers each season, on our verandas and porches, is a success, it gives us a great amount of pleasure, because, as a general thing, if we are unfortunate enough to be kept prisoners in the city during the season, it must be our substitute for a garden. But when, on the other hand, it turns out a failure we are likely to lose faith in the possibilities of flower-culture under such conditions, and declare that *all* window-boxes are "snares and delusions." And it is an easy matter for us to cite scores of experiences similar to our own in this phase of gardening, for it is a fact that cannot be gainsaid, that nine-tenths of the window-boxes one sees, when going along the street, are sorry failures. At first, they seem likely to develop into something attractive, but after a little they come to a stand-still, and presently they are in "the sere-and-yellow-leaf" stage of their existence and soon we see them no more. The discouraged owner has kindly and regretfully consigned them to the oblivion of the back-yard.

"There *are* such things as beautiful window-boxes," said a friend to me, last season, after lamenting over her third season of failure. "I *know* there are, because I have seen them. And to see them was to want to have something like them. But judging from the experience of myself, and of my friends, there must be a knack about them which we poor amateurs cannot attain. The grower of a really pretty window-box is, like the poet, born, not made, I conclude."

My friend was right about it. There is a "knack" to the successful culture of flowers in the window-box. But, fortunately, it is a knack anyone can easily acquire. It consists in using a pailful of water where a quart has been considered sufficient.

I wonder if those who have attempted to grow fine plants in boxes at the window, and on the veranda, have ever thought about the rapid evaporation which must take place from a box exposed as most of them are? The air can get to it at all sides, and from below. The wind also, and, as a natural consequence what moisture there is in the soil is parted with so rapidly that, before you know it, it

Window and Veranda Boxes

becomes almost as dry as dust. In such a soil no plant can grow. It may *live* from one watering to another, but it cannot flourish. By and by a diseased condition sets in, and presently it dies.

When a window-box is first filled with plants they are small, as a general thing, and have few roots, and these are near the surface. When a small amount of water is applied, daily, the surface of the soil is wet and the few, delicate roots of the plants get all the moisture they need, therefore they flourish for a time, and the collection promises to do well. But as soon as their roots attempt to reach down into the soil they get below the moisture-line and then it is that they cease to grow. This explains why so many persons fail, after thinking they are on the highroad to success in the culture of the window-garden. The amount of water that is quite sufficient to answer the demands of a *small* plant is only a fraction of what a larger plant requires.

If the owner of a window-box were to experiment a little, she would soon convince herself of the folly of applying water in small quantities. Let the soil in such a box get dry—really *dry* all through—apply a quart of water to it, then examine the effect. You will find that perhaps an inch of the upper soil has been penetrated by moisture, but below that the soil

remains in the condition that prevailed before any water was applied. Then use a pailful of water, instead of a quart, and note the change that takes place. You will find that *all* the soil in the box is

saturated. Very likely some water will escape at the ends and bottom if the box is not a snug-jointed one. This shows that the soil has taken up all the moisture it can retain, and that the surplus has been allowed to drain away. From this experiment you gain a good idea of the amount of water needed to keep the soil moist, in a window-box of average size, and from it it is easy to formulate this rule. Apply at least a pailful of water to each box every day. If the season is a very hot, dry one, a second watering may be necessary, especially after your plants have grown to good size, for then they will have strong roots and a good many of them, and these will extract moisture very rapidly from the soil. Evaporation will be doing the same thing, hence

two sources of moisture-depletion must be guarded against instead of one. From what I have said, it will be easy to understand that I consider the window-box problem solved by the liberal use of water. I have advised a great many readers, who have written to me of failure, to try again, and use water as suggested above, and many of them have done so and have written, later on, to tell me of entire success.



A VERANDA-POSTBOX

House and Garden

Beware of the "little-and-often" plan of watering. Some persons follow it, giving a small amount of water "every time they think of it." They never have good plants. Why? Simply because a small amount of water fails to supply the need of the plants, to begin with, and is soon utterly dissipated by evaporation. When you water any plant, do it thoroughly. Give enough to saturate the soil. Then wait until the *surface* looks dry. Then give more on the same liberal scale as at first, and keep on doing this throughout the season. If this is done, there is no good reason why you should not grow plants as well in boxes at the window, and on the veranda, as in the garden. You need not be afraid of over-watering your plants. The roots of them, and evaporation, will take care of all that does not run away at watering-time, and no such disastrous results will occur as take place in the winter window-garden. In filling the window-box use the best soil you can get.

Be sure to fasten window-boxes securely in place. A box ten or twelve inches wide, and as many inches deep, and the length of the window-sill,—and no box ought to be smaller if you would grow fine plants in it—will contain a good deal of soil, and the weight of it will try the strength of a few nails so severely that they often fail to stand the strain put upon them, and some day, after you have applied a pailful of water they give way and your little garden is demolished. Guard against accidents of this kind by fastening the box so securely that it will be able to hold its own against a much greater weight than is likely to be put upon it.

Do not get the idea that a fancy box is necessary. I have seen finer plants grown in a pine box that any storekeeper will sell you for ten cents, than in tile boxes that cost as many dollars. Perhaps the explanation lies in the fact that the pine box had cracks and crevices in it through which all surplus water ran off freely, while the tile box, being practically water-tight, retained so much that the lower stratum of soil was kept in the condition of mud, thus bringing about a diseased condition of roots which soon ended the usefulness of the plants growing in it.

I am often asked what plants to use in the window and veranda-box. I would reply: Whatever kinds you like best, among others those which succeed in the garden in summer, under ordinary culture. As I

said above, there is no reason why you need not be successful with them if you give them all the water they need. I would advise planting vines and drooping plants about the edge of the box to hide it after a little, and back of them plants of upright habit. Geraniums, Heliotropes, Tea Roses, Petunias, Fuchsias, and Lantanas will furnish a generous amount of bloom throughout the season. Coleus, Dracenas, Crotons, and fancy-leaved Geraniums will supply vivid touches of color in foliage. Senecio Moneywort, Lysimachia, Tradescantia, Nasturtiums, and Ivy-leaved Geraniums will soon drape your box with a wealth of greenery, and make it impossible for the passer-by to tell whether it is a ten-cent bargain, or a ten-dollar tile one. At north windows ferns will flourish, as will Pansies and *Asparagus Sprengeri*,—the latter planted where it can droop over the box. Such a box of plants will have a cool, dainty look about them that those of more brilliant color will be lacking in.

The accompanying illustration is from a snap shot of a veranda-box that was beautiful in its simplicity. Single Petunias and German Ivy drooped over it, and a double Petunia, Geraniums, and a thrifty Coleus made it brilliant with color, while a Dracena, in the centre, furnished a charming contrast in green to the vivid hues of the flowers and the richly-colored foliage of the Coleus. All simple, inexpensive plants, you see. Probably a dollar would have covered the first cost of them. But their combined beauty made the place in which they grew an admirable substitute for the garden its owner could not have. Such a box may be grown at the window of the living-rooms of the home with very little trouble, and the pleasure to be derived from these little gardens has a value that cannot be computed in dollars and cents.

If you want to educate the children to an appreciation of flowers, let each one of them have a window-box, or a box on the veranda, in which to grow such plants as they may select. Take a little pains, at first, in telling them how to plant and care for them. In a short time they will become enthusiastic little gardeners on a small scale, and I venture the prediction that after one season's experience you can safely give over box-gardening to them. They will, doubtless, take better and more regular care of their flowers than older persons are likely to.





NO. 1

ROCKERY, EGANDALE, 1905

THREE HOUSE AND GARDEN SUGGESTIONS

BY W. C. EGAN

Garden Rockeries A ROCKERY, or even a rock-garden, as known in Europe, and especially in the moist and favorable climate of England, is not known here. Our hot sun, drying winds and severe winters are inimical to success.

The term rockery, in a garden sense, implies the cultivation only of Alpine plants, and those whose habitat is that of the crevices and shallow pockets in the rocks; in fact, those first constructed were to afford a congenial home to this class of plants, the elevation producing the perfect drainage required, and the projecting stones the shelter from sun and wind. Man is progressive, and rocky glens and dales, where fern and brake had taken refuge, suggested the rock garden, more extensive in area and more level in contour.

An abandoned stone quarry, a natural out-crop of rocks, or the talus of a ledge, often afford most admirable situations for a rock-garden, and here one may depart from the traditional restrictions, and use plants spurned by the Europeans as being outside the charmed circle of rock plants.

In these situations, as elsewhere, ample and deep root-run of soil must be provided.

When Nature has not supplied these requisites, and one feels that he must have a rock-garden, he is placed in a quandary, requiring thought and study to be successfully liberated. A natural out-crop suggests, and probably is, the most suitable position, but in its absence a site must be chosen. Here comes the rub. Sometimes, as in my case, some natural condition of the surroundings suggests a situation. From a deep ravine at the southern limits of my grounds a spur runs out into the lawn, cutting the turf into two lobes. If Nature took the notion to invade my premises in that manner, she might also have deposited some rocks at the point—at least, I imagined so, and chose that place for my rock-garden. The densely-wooded ravine formed an essential background, and hid the retaining wall of boulders at the raised back.

The first step was to cart quite a mound of rich, light soil to the spot, and put it in place, high at the back and receding gently to the lawn on three sides.



NO. 2

PERENNIALS IN ROCKERY—A NEARER VIEW OF NO. 1



NO. 3

ANOTHER EGANDALE ROCKERY

Three House and Garden Suggestions

Then rocks were embedded, forming pockets, ledges and small beds; but in all cases the soil led down to the main mound, so that in every instance, no matter how small the pocket was at the top, there was ample root room below.

Nearly one-half of the western portion is occupied by one grouping of rocks, and is shown in the first illustration here given; while a closer view of a portion of it is given in number two. Between the group and the large pocket containing the ferns (number 3) is a gently sloping space, starting from the lawn and leading up to a small bed at the back, containing succulent plants. It is some nine or ten feet long, varying in width, but averaging, say six feet, all of which is planted with the moss pink—*Phlox subulata*. The flat mass effect is broken by a protruding jagged-topped rock, at the base of which is a very dwarf arbor-vitæ. Hidden in among the plants are flat stepping stones to admit passage for weeding. This space, whether in its brilliant flowering period, or when reveling in the mossy gray tones of its foliage, is always attractive. A few short oak boughs, cut early so as to retain their foliage, stuck into the soil here and there between the plants, gather the flying autumn leaves, holding them in place, and affording an ideal winter protection for this evergreen plant.

A tall, slender, pyramidal arbor-vitæ stands at the east of the phlox, to the left of which is a large group of the ostrich fern, shown in illustration number three. This fern bed is raised some two and a half feet above the lawn level, and when the ferns are in their prime they are considerably taller than one's head when standing on the lawn.

At the base of the rocks, retaining the soil in this bed, is a single specimen of that admirable shrub *Berberis Thunbergii*. A *Funkia subcordata* and some escaped ferns complete the foundation furnishings. Pyramidal and dwarf evergreens are used here and there in order that, from our windows and porch, the space may look attractive when the other occupants are enjoying their winter's nap.

Among the plants used are the following—the varieties of annuals being changed each year:

<i>Alyssum saxatile</i>	<i>Lobelia-dwarf</i>
<i>Anagallis Phyllipsi</i>	<i>Phlox subulata</i>
<i>Asclepias tuberosa</i>	<i>Sedums</i>
<i>Columbines</i>	<i>Sanvitalia procumbens</i>
<i>Campanula Carpatia</i>	<i>Saponaria ocymoides</i>
<i>Callirrhoe involucrata</i>	<i>Silene pendula</i>
<i>Epimediums</i>	<i>Sweet alyssum</i>
<i>Gaura Lindheimeri</i>	<i>Tageles nana</i>
<i>Geranium sanguineum</i>	<i>Ulmia Filipendula</i>
<i>Geum coccineum</i>	<i>Verbascum phoeniceum</i>
<i>Helianthemums</i>	<i>Veronica repens</i>

Table Decorations IT is an unusual pleasure to those having access to their own flower gardens to arrange their table decorations when entertaining. Almost any departure from the florist's decoration that one has seen so oft repeated during the winter's festivities, is a welcome change to one's guest, and starts the feast with a feeling of pleasure. A little forethought in the selection of flowers and foliage most suitable, and of the proper vehicles to contain them is advisable. It is an established rule that no table decoration should be so tall as to hide the view of any guest. To engage in conversation with an unseen person is not pleasing. Bowls and small individual vases have been generally used, but the former are apt to produce a lumpy effect, too heavy for a dainty lunch. There is in market a stand about a foot high, with a glass base and standard and a silvered wire frame holding, in candelabra form, five small urn-shaped vases, which may be arranged quite daintily. There are taller ones, containing more vases, but too tall for table use. A more elaborate stand is also in the market, round in side outlines, having respectively nine and eleven vases, the centre ones being higher than those outside, thus forming a low mounding top. The frame is of silvered wire and the vases of white glass, and they cost nine and eleven dollars each. One may, however, have a frame made of copper wire by any florist, painting it an enameled white



* JAPANA HOLDER IN GLASS DISH



ROSES IN PERFORATED GLASS DISH, SET IN A BOWL



COSMOS AND DAHLIAS IN GLASS DISH, SET IN A BOWL



Vase with Wire Frame

Kift's Candelabra Flower Stand

Oval Form for Centre Table Use

SUGGESTIONS FOR FLOWER HOLDERS



ASTERS IN BASKET

—and obtain through him the vases used in the candelabra form mentioned. This should bring the cost down to considerably less than five dollars.

The vases, which are about two-and-a-half inches in diameter at the top, are set some three inches apart, from centre to centre, allowing an open, dainty decoration, free from stiffness.

A new and admirable flower holder has lately been offered by a Western florist that sells at a price within the reach of all. An Irishman would describe it as a solid glass dish with holes in it. It comes in two sizes—the larger one being four inches in diameter and two and one-half thick. Twenty-seven holes, almost large enough to admit an ordinary sized lead pencil, run longitudinally from top to bottom; it costs at retail, fifty cents. This may be set in bowls or glass dishes of equal depth and used with effect. When the smaller iris is used—such as the English, Spanish, *pumila* or *graminea*, a shallow glass bowl much larger in diameter than the holder, filled with water, produces a dainty and natural effect if the natural foliage is used and arranged properly.

What to put into them is the next consideration. Among the shrubs, blooms of the Deutzias, exochorda, fairy rose "Cecile Bruner," many of the



CHRYSANTHEMUMS IN FANCY WASTE BASKET

spirææ, or any small-flowered forms are good. Most of these will furnish their own green, but with sweet peas and others it makes a better effect if the foliage of the meadow rue is used quite freely. I like *Thalictrum dioicum* the best. Its foliage so resembles the maiden-hair fern that it is often mistaken for it. Its keeping qualities are unsurpassed, and as its fronds stand out at almost right angles with the stem it forms a leafy base for the flowers to nestle in. It will grow almost anywhere, and may be planted in between tall-growing shrubs in semi-shade, but it is well to plant some also in more open places which will be ready for use earlier than the shaded ones. Its bloom is inconspicuous, but that of *T. aquilegi-*

folium, a taller-growing species, especially its white form, presents a fleecy plume that may be among the flowers to use. The following are suitable: Spanish iris, *Iris graminea*, *Auemone Pennsylvanica*, columbines, Boltonias, *Campanula Carpatica*, lily-of-the-valley, Chinese *Delphiniums*, bleeding heart, *Euphorbia corollata*, Geums, *Gypsophilla paniculata*, *Lychnis Floscuculi*, *Rudbeckia laciniata*, Trilliums, sweet peas, and many others. These are all hardy perennials excepting the last, but many forms may be found among the annuals.

Rosa
Spinosissima WHILE this rose bears a most formidable name—more easily pronounced by those who lisp—it is withal, at the time of its bloom, one of the most charming of its race.

Coming, as it does, from the Altai Mountains—The Ghin-shau, or Golden Mountains of the Chinese—in its Siberian range, where the sub-alpine meadows are rich in soil, but cold in climate, it stands our winters unprotected and unharmed.

This is a desideratum of much value to many of us—and I am one—who live in a climate uncongenial to the better class of roses.

It is classed with the Scotch rose—*R. Spinosisima*, but is a much taller grower.

Unfortunately when first introduced, it bore the

name of *R. grandiflora*, a name already applied to a more tender variety, which led to much confusion and disappointment.

I mention this because I bought the true *R. grandiflora* under the belief that I was getting *Altaica*, and found it winter-killed, the following spring. In time, in ordinary garden soil, it will form a bush five or more feet tall and as much in width, and seems exempt from insect pests and fungus diseases. In June—the month of roses—it comes as a bride, all decked in white, a pure paper white, centered with a disk of golden anthers.

Those who have been fortunate enough to see and admire that mysterious, but enticing rose of the South Atlantic States, the Cherokee, are struck

Three House and Garden Suggestions



ROSA SPINOSISSIMA, VAR. ALTAICA, HARDY, EGANDALE, 1905

at once by the resemblance of this, its prototype. The Cherokee is a rambling exotic, a native of the Orient that has strayed from its habitat and become naturalized in the warmer portion of the Atlantic coast, but is, unfortunately, too tender for a northern climate.

White *R. Altaica* is worthy of an individual position. Standing alone, it lends itself to grouping, and for a less tall companion bearing a similar single white flower, the comparatively new white form of our native *Rosa lucida* (*R. humilis*) may be used. Roses that are hardy without protection, with me, are limited in number and valued in proportion. The old garden forms of June roses do fairly well.

The Japanese *Rosa rugosa* and some of its hybrids, are indispensable, the former being single in flower and many of the latter double, and most all possessing the true rosy scent. The type *R. rugosa* comes

in two colors, one a pure white, and the other different shades of pink. With them one may, even here, indulge in the hitherto undreamed of luxury of a perfectly hardy hedge of roses.

Flowers from June to frost, and a goodly array of bright colored hips, large as cherries, will reward the planter, and a wealth of dark green, rugged, deep-ribbed foliage, always fresh and crisp, form a pleasing foil for flower and fruit.

It needs but little care. Manure at its roots in winter more for its leachings than protection, and quite a severe cutting back each spring to cause it to retain its foliage close to the ground, is all it needs. I protect all my climbing roses, as well as the hybrid perpetuals by bending them down, covering thickly with dry oak leaves—loose dry straw or hay would do—and then boxing them, being sure that the roof is water tight, as dripping moisture will rot the canes.

GARDEN WORK IN MARCH

BY ERNEST HEMMING

IN all well regulated gardens, work begins in earnest sometime during the month of March. Allowing for the vagaries of the weather, it is

usually possible to commence digging about the 20th of the month in the latitude of Philadelphia, with New York and Boston a little later,

and Washington and points South a little earlier. There is, however, lots of work that should be attended to before the frost is actually out of the ground.

In the flower garden, perhaps the roses should be first to receive attention. The first few warm days will make the buds look plump and ready to burst. This is the time to prune them, as all danger of the wood of the more tender varieties killing back is past.

To many the art of pruning is a mystery; to others it merely consists in taking a pair of shears and cutting back to nowhere in particular. To prune properly the nature of the subject must be understood: with the rose bush it is a very simple matter and anyone with a little attention can readily learn the rules governing it. With the hands protected by a pair of leather gloves to keep the thorns from tearing them and a pair of shears, or sharp pruning knife, first cut out all the dead wood; there will be no difficulty in distinguishing the dead from the living. The next step is to cut out all the weak and twiggy growth, reserving the strongest wood that was made last year. These strong shoots should be shortened back more or less according to the strength and variety of the bush.

The point to keep in mind is that the bud next below where the cut is made will develop into a shoot that bears the best flowers. Opinions differ as to how severely roses should be pruned, but for the amateur it is always a safe rule to leave five or six buds on each shoot of last year's growth when shortening them back.

After pruning clean up and fork the ground over around the bushes, turning under some well rotted manure, that from the cow-stables preferred, if it is procurable.

The pruning of climbing roses is a little different, the object being to obtain height to the plant. The rules are the same about the weak and twiggy growth. The object should be to encourage strong new growth. Some roses, like the Crimson Rambler, throw up strong canes from the ground; when the roses are on their own roots these should be encouraged as they will bear the flowers. If the roses are budded or grafted they will

occasionally throw up suckers or shoots from the stock which should be removed. It will be easy to distinguish them with a little observation.

The herbaceous borders are not the least interesting features of a garden in the early spring, and to bring out the interest they should have early attention so that the various forms of growth of the different plants may be seen at their best.

The winter aconite, *Eranthis hyemalis*, is perhaps the very first to bloom, this will soon be followed by the red shoots of the peonies, the various shades of green of the shoots of the phlox, columbines, hollyhocks, German iris, delphinium, bleeding heart, and many others. If there is any transplanting to be done, the sooner it is attended to the better. All hardy plants may be moved with safety now, and if they are dug up without shaking too much of the soil from the roots they will not know they have been moved so that it will not affect their flowering qualities at all. Overgrown clumps should be dug up, divided and replanted. Any faults noted the previous summer in the arrangement of the plants should now be corrected. If it were not attended to in the fall, the dead tops should be removed and the ground carefully forked over, watching out for those plants that have not yet put in their appearance above ground so as not to injure them. This will leave the borders in a nice, fresh looking condition and prevent the first crop of weeds detracting from their general appearance at this interesting time. Well rotted manure may be turned under freely.

The same general cleaning up of the shrubbery borders is in order, and if these were not pruned during the winter it should be attended to without delay. Do not, however, ruin your shrubs by cropping them over with a pair of shears, or prune them all regardless of kind in the manner advised for roses, or you will cut off the majority of the flowering wood. Take for instance the golden bell, spiræa, lilacs, Deutzias, in fact nearly all the early flowering shrubs bloom on the wood that was made the previous summer, so that to cut it off must necessarily result in the loss of flowers. Leave the long branches of these untouched and you will be rewarded



DEUTZIA UNPRUNED



DEUTZIA PRUNED

Garden Work in March

with long sprays of flowers. Cut out only the dead wood and weak growth leaving the young and vigorous shoots. If necessary shorten these in after they have done flowering. A few of the early flowering shrubs flower on the old wood, such as the Judas tree or red bud and *Pyrus Japonica* or Japanese quince. These as a rule are better left severely alone. The later flowering shrubs, such as *Althæa Syriacus* (Rose of Sharon) and the different varieties of *Hydrangea paniculata* may be cut back like the roses as they flower on the young wood made between now and their season of flowering.

The lawn should come in for a little early attention. If manure was spread over it during the winter this should be thoroughly raked off with an iron toothed rake. Even if there was no manure spread on it it will pay for a thorough raking, as there will be twigs, pebbles and rubbish scattered over it from some inconceivable source that will be very annoying if not cleaned up before the machine is used. Where the grass is poor press on the rake a little harder, stirring the ground up as much as possible and sow a little grass seed and white clover.

An application of Canada wood ashes or bone meal could be used now to the best advantage if the lawn is not in good condition.

It is hardly necessary to mention that such evergreens as were protected during the winter should have their covers removed as soon as the frost leaves the ground, and any excess of mulch be taken from the tulips, hyacinths, daffodils and other bulbs and protected plants.

As a rule there is not very much gained by sowing either vegetable or flower seeds too early, but the good gardener always arranges to have everything in readiness so as to be able to take advantage of the most suitable weather and conditions. With this in mind make up your list of seeds and purchase from a reliable house as early as possible, so they will be on hand when needed.

Sweet peas may be sown just as soon as the ground can be worked. Dig a trench twelve to eighteen inches deep, mix some well rotted manure with the soil and place in the bottom, fill up the trench with soil to within about three inches of the top, then sow the peas, not too thick—the seeds should not be closer than one inch apart—then cover them to the depth of about two inches.

The vegetable garden should be dug or ploughed as soon as the condition of the ground permits. Onions, peas, radishes and lettuce are among the first to be sown. Hitherto perhaps the first mentioned have always been grown from sets. It is

well worth while to sow a bed of seed in addition, while the onions may not grow so large they will mature into fair sized ones with a good proportion of little ones for pickling. To those who like green onions, those from seed will be found to be much superior to the ones from sets. Sow the seed just as soon as it is possible to work the ground. Rake the soil fine when preparing the bed, make very firm, treading the ground evenly all over, this however should not be done unless the soil is in fairly dry condition. With the back of the rake make shallow drills and sow the onion seed very thin and cover lightly, then firm over with the back of a spade. Sow the peas as advised for sweet peas. Provision must be made to protect them from the sparrows as these little robbers are very fond of them just as they are coming through the soil and will rapidly destroy a crop at this period. A small-meshed wire netting is an excellent protection, failing this, black sewing thread stretched on pegs stuck in the ground will effectually keep them away. The thread should be strung about two inches high, several strands running the length of the row will be quite sufficient. Spinach also is one of the crops that should be sown as early as possible. Every cook knows how this vegetable seems to boil down to nothing, so that it is in order to plant a good supply.

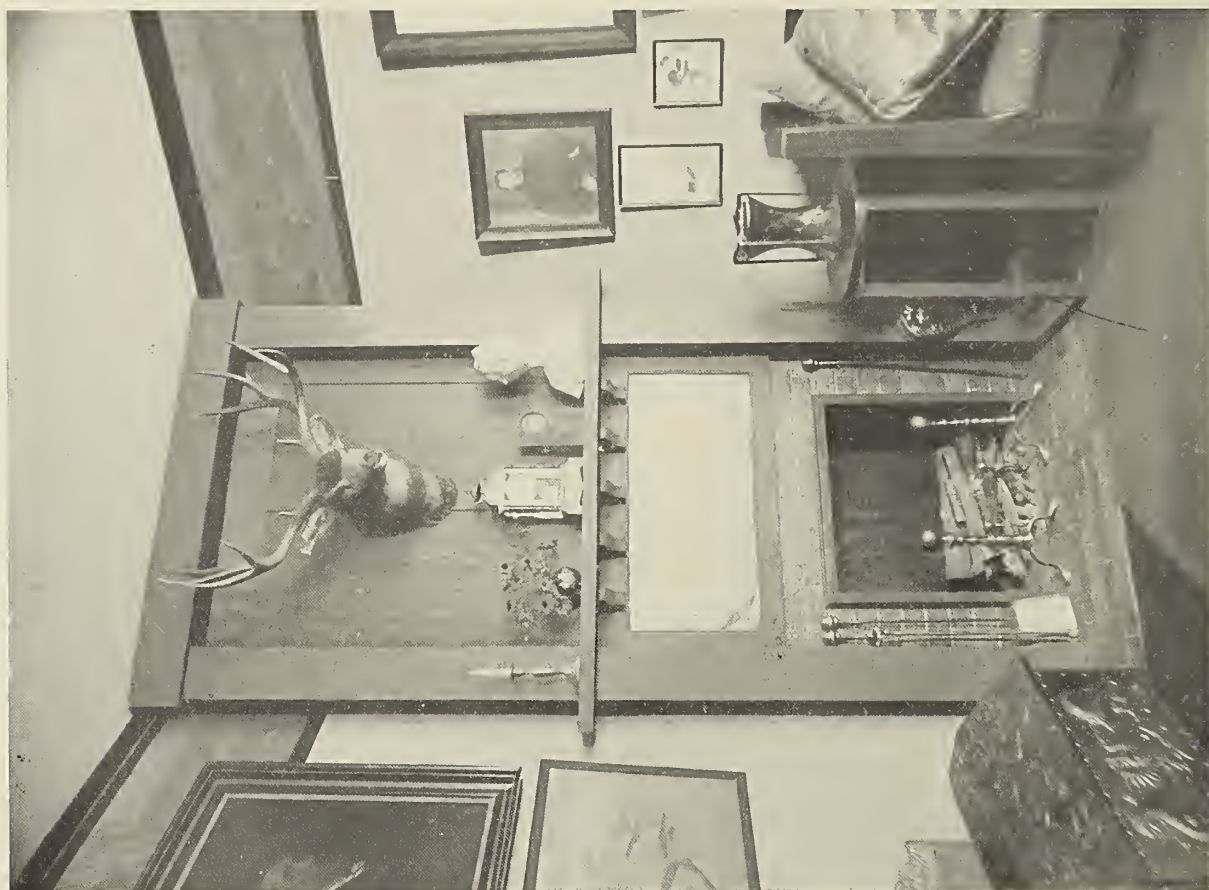
Those who are fortunate enough to have cold frames can make good use of them in early spring. Pansies, cosmos, tomatoes, cabbage, cauliflower, lettuce, may all be had from two to three weeks earlier by sowing under such protection.

The commonest mistake in sowing seed in boxes is that too deep ones are used. They should not exceed four inches in depth and should have a few crevices or holes in to ensure good drainage. Use light sifted soil. If the only soil procurable is heavy or clayey in texture and bakes when dry, mix with a good proportion of sand and well rotted manure rubbed through a sieve. Avoid leaf mould from the woods. Fill the boxes up level and press down firm and evenly, sow the seed thinly and cover with fine soil very lightly, water with a fine spray and do not let the soil become dry after the seeds have begun to germinate.

The month of April is usually the one in which most of the sowing is done as the soil is not in fit condition except in some favored localities, so that the work of this month is essentially one of preparation. Deciduous trees and shrubs may be safely moved. No time of the year is better for this operation. Evergreens may be left with advantage until the weather gets a little warmer.



THE SOFA SIDE OF THE ROOM



THE FIREPLACE AND MANTEL

A ROOM FURNISHED IN MISSION STYLE

By MABEL TUKE PRIESTMAN

IT is not so easy as it would seem to furnish a room with artistic taste and yet keep it simple and homelike, but, when color and proportion are carefully thought out beforehand, everything will come together in a satisfactory and harmonious manner.

Not long ago I assisted a lady to furnish a library, which adjoined a beautiful drawing-room furnished in the colonial style. First of all, this room itself had to be considered. As it was in tones of greens and old reds some scheme harmonizing with these colors had to be thought out. The library was long and narrow, with a bay window at one end, and a door leading into the hall at the opposite end; at right angles another doorway led into the parlor. Opposite in the corner was a forlorn mantelpiece, with all the woodwork varnished pine. We planned to have the colors tan, brown and red, with touches of green and copper. After the paper was removed and the mantel taken out, we covered the walls with a heavy Boston felt, which was a warm shade of tan, almost brown; above this a landscape frieze with brown trees, green fields, and a red sunset, the colors of which were carried out in the room; the frieze was printed on a heavy felt, the shade of the wall paper, and fairly glowed with rich, warm tones.

The very ordinary woodwork was changed by having the varnish removed and staining it brown; the picture mouldings were, of course, colored to match, as the room had no cornice, and the frieze required a heavy moulding above. I used the ordinary ready-made plate rail, having the part intended for plates flat against the ceiling.

Mission furniture stained brown, with russet and leather cushions, harmonized well with this scheme.

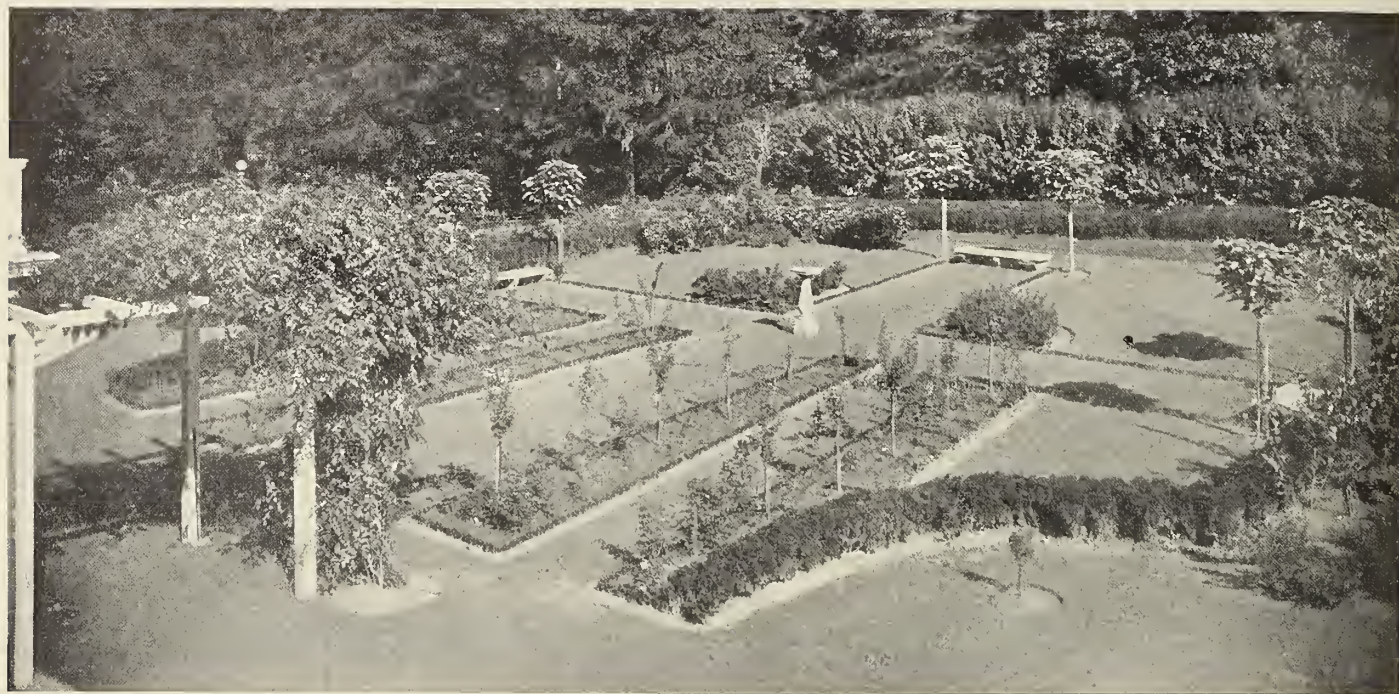
Against one long wall the sofa was placed, while bookshelves lined the opposite wall. A writing table with drawers stood between the sofa and windows, and several easy chairs, none of them heavy and massive, like so many of the Mission chairs, were conveniently arranged. On the floor, a made-to-order brown wool rug with a stencilled border design gave a touch of individuality to the room. The chimney piece also afforded opportunity for something a little different, so I designed one with simple straight lines reaching to the ceiling. In the large centre panel above the mantel shelf a deer's head was placed, while below the shelf a plaster panel of the Chariot Race, tinted green, was set in the mantel. The tiles were dull copper, without any shiny surface, and the hearth stones, too, were unglazed. The copper tones were repeated in the portieres, between the two rooms, which were made from a mercerized material of a conventional two-toned design suited to the rest of the decorations. Soft scrim sash curtains were stencilled with a nasturtium design, repeating the colors in the landscape fringe. Although these curtains have been washed several times, they have retained their color, and seem impervious to the rays of the sun.

There is nothing fussy in the way of ornaments; they are well chosen, and also serve a useful purpose. Pictures are framed to suit the subjects, and the strong bits of color in the Japanese prints are a pleasant relief to the eye from the other brown-toned platinotypes.

The room is a pleasant one in which to stay awhile; while a comfortable chair has beside it a low reading table. It is, after all, these little things that count in the making of a successful room. The accompanying photographs are by Miss Emma E. Francis.



MOOR PARK, ENGLAND



GARDEN AT WEST OF HOUSE—RIVERDALE



HALL OF HOUSE AT RIVERDALE. VIEW LOOKING TOWARDS GARDEN

A NEW WAY TO BUY A HOUSE

By J. M. HASKELL

“VERY WELL! Here is my check for five thousand dollars. I shall take my family to Europe on the first of the month and will not return until the 10th of next December. On the 20th of that month I shall expect you to deliver to me, complete in all particulars according to my written memorandum of instructions, the house called for by these plans and specifications—complete as to structure; as to grading, sodding and planting of the grounds; complete, too, as to furniture, with carpets down, curtains hung, pantry, kitchen and coal cellar stocked, the house warmed and lighted, and dinner for six ready to be served at eight o'clock of that day. The price is to be thirty-five thousand dollars and it is agreed, too, that there are to be no bills for extras or additions, and further that if the house complete can be built and equipped according to these plans and instructions for less than thirty-five thousand dollars I am to be credited with my share of the difference. Meanwhile I want to hear nothing further of the matter until I return. My financial agent will pay you additional instalments of the cost pro rata as the work proceeds in accordance with my contract with you until twenty-five thousand dollars have been paid. The balance due you will be paid within thirty days of the delivery and acceptance of the house by me, and it will be accepted and your bond satisfied when I am satisfied that everything has been done by you as agreed.”

Such, in effect, is the way the house builder of the twentieth century will buy his house, if the new method of Messrs. Hoggson Brothers is carried into successful operation; and that it can be done they offer as evidence the accompanying photographs of a thoroughly modern residence at Riverdale, New York, recently completed under their system. Acting as the owner's representative they attended to the making of the plans for the house by a New York architect approved by the owner; to the designing and planting of the

grounds by a landscape architect; the building of the house and the grading by local labor under a local contractor.

The site of the house is on a slope of the Palisades overlooking the Hudson and facing east. To take the fullest advantage of the easterly exposure, all the rooms of the house are practically on that side, as shown in the accompanying plans, which carried out the owner's wishes in every respect.

The house is of frame throughout with foundations of local stone. All of the rooms are furnished in enamelled cream white woodwork with Colonial detail. The halls are panelled, and the ceiling beams show in the dining-room, around which there is a rail six feet above the floor. The fireplaces are finished in brick, and the bath rooms in cream tile, with vitreous tile floors.

The second floor contains the bedrooms, bath rooms, and linen closet only. On the third floor are a large guest room, servant's room, bath rooms and attic. The cellar contains the arrangements usual in a house of this character.

The advantages claimed for this method of contracting are:

- 1st. That the owner is guaranteed a certain maximum cost with a variable minimum cost dependent upon the saving effected over the first estimates.
- 2nd. That the owner is relieved of responsibility and worry during the progress of the work.
- 3rd. That the inclusion under one contract of all parties engaged in the production of the house ensures a uniformity and unity of product not otherwise possible.

In the case illustrated, the entire estate was finished, stables, pergolas, etc. erected, vegetable and flower gardens planted, and the whole delivered actually ready for use.

This proposition seems a reasonable one, and will doubtless become a well established custom once public confidence is fully gained.



FOUNTAIN IN GARDEN.

A SUGGESTION FOR RELIEVING A BLANK BRICK WALL



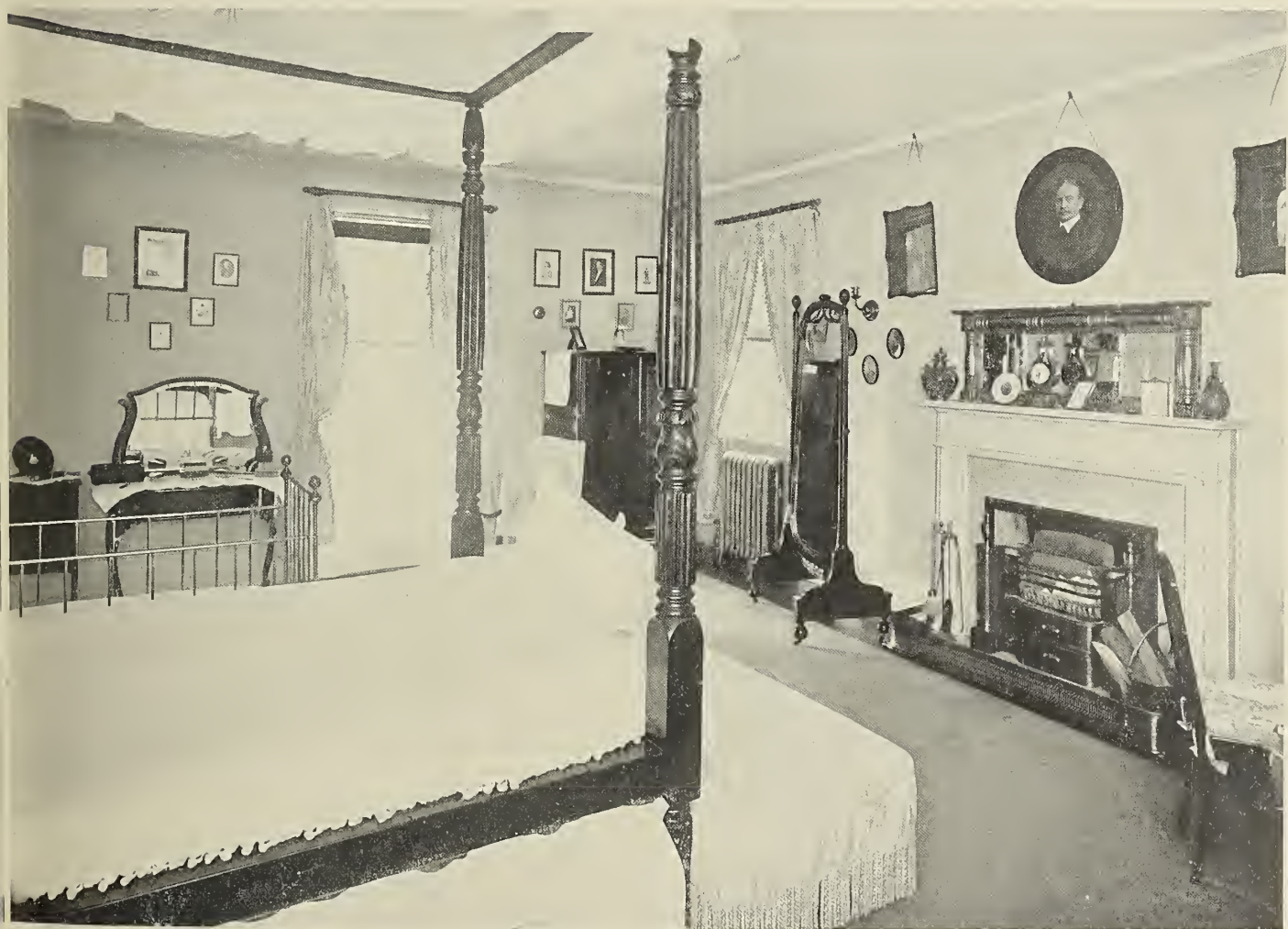
ENTRANCE TO THE RIVERDALE PLACE



LIVING-ROOM, RIVERDALE. FINISHED IN MAHOGANY



VIEW FROM THE NORTHWEST



A BEDROOM AT RIVERDALE—BLUE CARTRIDGE PAPER AND WHITE WOODWORK

HOUSE AND GARDEN CORRESPONDENCE

SEMI-DETACHED VERSUS URBAN HOUSES

Will you permit me to take issue with your suggestion in *HOUSE AND GARDEN* for October, that houses of the closely built city type are preferable to semi-detached houses under certain conditions? The particular case cited showed houses about eight feet apart. Does not the fault lie with the plan of these houses rather than with the type itself? I fully agree that existence under such conditions as there shown—with, say, fifty per cent. of the windows within handshaking distance of similar windows in an adjoining house, must be nearly intolerable—or at least it should be so to people normally sensitive to the value of privacy in domestic life. But could not these houses have been so arranged as to obviate this objection by having the plan so shaped, with the front parlor not more than two rooms deep? These rooms would be lighted by front and rear windows respectively, and assuming that these rooms on the floors above the first were bedrooms, a bath room and closet space could be introduced between the principal rooms, the former having a side window with the sill above the eye line, and a similar window could be introduced into each of the rooms, for cross ventilation only. The back building could be arranged upon similar principles, and the objectionable feature of those houses thus entirely eliminated.—VIGNOLE.

Our correspondent is right in principle, but it is inapplicable to the case cited, as the width of the lot would not permit of an L-shaped plan without materially lessening either the size or the number of the rooms, with a corresponding reduction in the rental or the selling price as the case may be. The advantage of a house having free light and air on three sides rather than on two is undeniable as an abstract proposition, but when this light and air on the third side is derived from a chasm less than eight feet wide and some fifty or more feet long and thirty feet high, the advantage becomes purely a sentimental one, which is overwhelmingly offset by the destruction of the real value of the side windows in the manner shown. [ED.]

FINISH FOR THE LIVING-ROOM OF A HOUSE-BOAT

Please suggest a finish for the living-room of a House-Boat. I wish to use a Franklin stove at one end, and would prefer the room to be Colonial in character. M. D. R.

Had you given me some idea of the wood finish used in the living-room of your House-Boat, I would perhaps be able to advise you more particularly. However, since you say you wish a Colonial effect, I would suggest the ivory eggshell-white enamel for the woodwork. A frieze could be used about the upper wall of this room. I have one in mind which comes in beautiful shades. These are 21 inches wide and 58 inches long. "The Swans" is a particularly attractive one and would look well used in such a room. The soft gray-green of the water and deeper tone of the lily pads and reeds make a charming contrast with the pure white of the swans themselves, which is repeated again in the water lily blossoms. The windows should be hung with a crinkled thin silk which will not be affected by dampness; this in the shade of green of the lily pads. The couch which your drawing shows, should be upholstered in linen taffeta of a deeper shade of this green. The rug for your floor should be rich in tone showing some crimson, together with other soft deep colors. Mahogany furniture would look well in this setting of ivory white, although willow furniture upholstered would be attractive. At your French door the same crinkled silk as is advised for the windows; curtains of this should be run on slender brass rods set at the top and bottom of the glass and drawn tautly in place. The price of this silk

is 90c per yard and it is 32 inches wide. There should be many pillows used on your couch, these to repeat all the various shades of color used in the room. The deep crimson in the rug, the dull old blue, cold green and rich yellow will be found to be entirely harmonious if chosen in raw silk pastel shades.

MARGARET GREENLEAF.

A COLOR SCHEME, RUG AND CURTAINS

Please suggest color scheme, rug and curtains for an octagonal room, size 15 x 15, finished in mahogany; upright piano in mahogany, onyx tile, old-fashioned writing desk, small carved mahogany sofa, arm chair, tiger skin rug; the furniture is to be upholstered. This room has three windows and one door with portieres. Height of ceiling eleven feet. S. A. G.

If you had mentioned the coloring of your onyx tiling, it would have been a help to me. I will advise a scheme in shades showing much of green in the hope that this will harmonize with the tiling. For the upper third of your wall, use a foliage tapestry paper. This does not mean a tree pattern, but is a foliage of poppies against a yellow brown ground. The shades of green are soft, some quite dark, and others almost sage green with suggestions of the blossoms themselves showing in dull red. The ceiling should be a lighter shade of the yellow tan. The lower wall should be covered with the green Japanese grass cloth matching the medium shade of green in the tapestry. The carved mahogany sofa and arm chair should be covered in silk-and-wool tapestry showing same shades of green, with suggestion of red. Window draperies of dull red, raw silk should reach only to the sill; next the glass should be hung curtains of soft point-de-sprit in cafe au lait shade. These curtains should also reach to the sill, and be finished with a plain hem three inches in depth. A Khiva rug showing the rich dull crimson ground that one sees in these, would be effective used with your tiger skin. MARGARET GREENLEAF.

FURNISHING A NURSERY

I am glad to see that your valuable magazine has opened a correspondence department relative to house decoration. This will be of great help to many like myself who will be glad to avail themselves of it. I wish now to ask advice as to the furnishing of a nursery in a simple way that would be attractive to children ranging in age from two to eight years. H. B. C.

There is a nursery paper made in England which is particularly attractive. This is Dutch in design, showing smiling little maidens and great white geese against a blue-gray ground. The poster effect is carried out in the stiff little trees and suggested background of hills and fences which are clearly defined. This used for the upper third or frieze in a nursery where walls are of dull blue or yellow, this latter shade matching the kerchief of the goose girl, is attractive. If the yellow is chosen, the draperies should be of white muslin next the glass, made with frills up the front. Straight valanced over-draperies of dull blue linen taffeta would harmonize well. The woodwork in this room should be treated with ivory eggshell-white enamel, or with Gobelin blue enamelacq. Tiny Morris chairs, in every way exact replicas of the larger ones, are now made for children, also tables of exactly the right height. However, should it be your desire to furnish this nursery inexpensively, you, perhaps, have some odd pieces of furniture which you can treat with ivory eggshell-white enamel, thus bringing pieces of your divers sets into harmony. A blue and white rag-style rug, which, as its name suggests, is very like the old rag rug, will be a good floor covering to use in this room.

MARGARET GREENLEAF.



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APPROACH TO MR. FREDERICK LAW OL MSTED'S HOUSE AT BROOKLINE, MASSACHUSETTS

Illustrating one of the vine effects referred to in Mr. Rexford's article on page 178

House and Garden

Vol. IX

April, 1906

No. 4

THE PRIVATE GARAGE

ITS DESIGN, ARRANGEMENT AND COST

By I. HOWLAND JONES

THE most modern problem that the architect has to face is the private garage. Motoring enthusiasm has spread so widely that many country house owners, even if horse lovers and possessors of a stable, have at least one machine. And the inaccessibility of public garages in this country being marked to a degree, as every motor tourist can testify feelingly, the inevitable need of one's own becomes imperative. And a very picturesque little one it may be, too.

When the problem first presented itself the private garage was made a mere shed with possibly a work-bench at one end, but latterly they have been developed until they are now as carefully planned and as well adapted to their use as the best of the modern buildings on our country estates.

There are several important matters which should be given careful consideration in the building of an automobile house, and a description of a few of the more recent ones with some suggestions upon the planning of them may be of interest. As a first consideration it is never wise to plan a building with only room enough to take one car, as the additional cost of making it large enough for two is so very little that the extra expense is always justified. Although it may seem to the beginner in this sport that he will never need to put up more than one car at a time, he will soon find that for some reason there is another car to be looked after, either because his own is being repaired, or a

guest's machine has to be housed, or for some other reason.

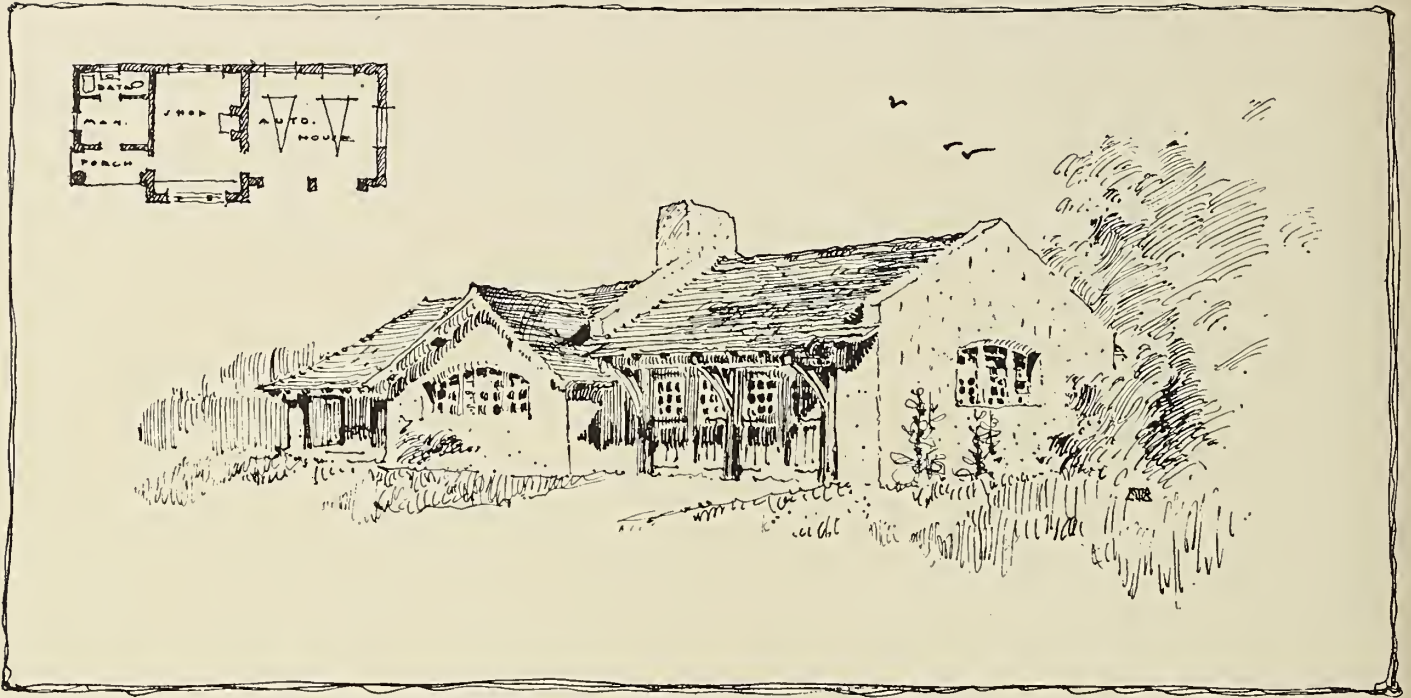
Probably the one important thing which will go further to make the building a success to the owner is the ease with which he can enter and leave it. For this reason it should be arranged so that the cars can stand along the back wall with the door opposite, and where the house is planned for two cars one door 9 feet 6 inches wide and 9 feet high is sufficient, provided there is room enough between the front and back walls for the car to make the small necessary curve in going out. This dimension from front to back should be at least 20 feet, which will allow a machine with perhaps a 90 inch wheel base to leave and enter easily. In case more than two cars are to be planned for there should be a door for each two cars, if possible. It is necessary, of course, in certain cases to use a different plan, but this one is without doubt the best, so far as ease in entering and leaving the house is concerned.

Another matter which should receive attention is that the house should be as fireproof as possible. In any building the floor should, if possible, be of cement, and if the building is to be of wood it should be mill framed as far as possible, that is, the frame should show from the inside instead of having the walls or ceilings sheathed or boarded on the inside. If the walls are sheathed, care should be taken to fill in between the studs with brick wherever a space might be left for the



SMALL GARAGE IN FRAMINGHAM, MASS.

House and Garden



SKETCH OF PRIVATE GARAGE AT COHASSET, MASSACHUSETTS

passage of fire. And of course there should be a faucet with hose connection, conveniently located with a hook for hanging hose at its side.

A fire in a house where two or more automobiles are stored would be so expensive, and so dangerous, that the greatest care should be taken to guard against it.

The ideal garage would be one built of masonry with concrete floors and brick or concrete walls, with perhaps a mill framed roof or second floor, if it were more than one storey high. The storage of gasoline too is important in this connection, and the safest way is to use gasoline tanks underground outside the house with a pipe leading to a small pump just inside, or better still, though less convenient, would be to have no connection between the tanks and the house, but to pump the supply outside into a can and then fill the machine from the can.

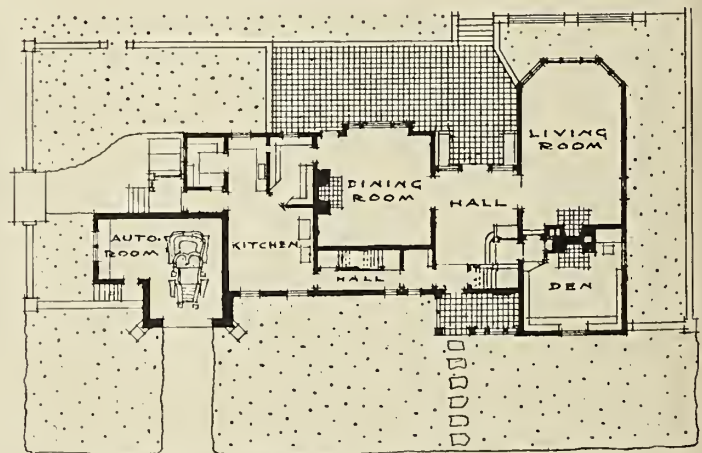
A washing-stand should be planned for in some convenient place in the building. This should be arranged the same as the carriage wash in a stable. In a larger garage, where a professional chauffeur is employed, there are many conveniences that may be added to make the building complete. In this type of building a small room should be fitted up as a workshop, with a strong work-bench with vise. This bench should be 4 feet wide and can be arranged with a wide shelf under which is a convenient place to store tires which are not in use. Also there should be a closet with poles and hooks and shelves or drawers for storing rugs or coats, and the many accessories that are necessary in motoring.

It is well too, to finish a room in the second storey for a chauffeur or perhaps two small rooms one of which could be used by a guest's chauffeur. And

there should also be a bath and toilet for their use, and there should be some arrangement too for hot water.

The plumbing and heating of a motor house need careful attention. There should be a sink either in the workroom or at the side of the wash-stand with hot and cold water and an overhead carriage washer should be placed over the wash-stand as in a stable.

The best method of heating the building is by either steam or hot water, and, of course, the heater should be put somewhere completely away from any room where gasoline is likely to be used. This is usually most conveniently located in a small room in the basement, and the heater may be arranged with a small separate coil, which will heat the water for the boiler which supplies the plumbing system. In the first auto houses a pit was usually made either in the workshop floor or in the floor of the



PLAN OF MR. ALLEN W. JACKSON, CAMBRIDGE, MASSACHUSETTS

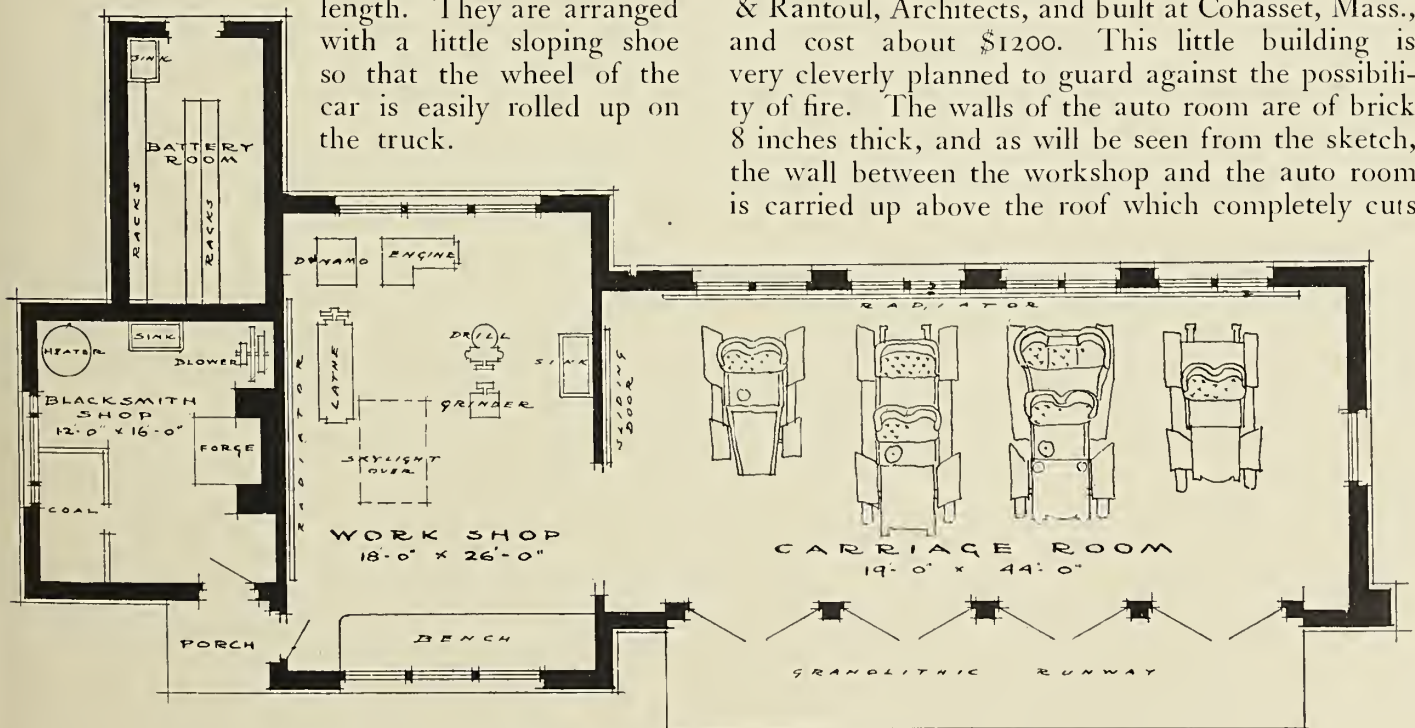
The Private Garage

motor room, over which a car could be run to be repaired. But now it is found to be much more convenient to arrange a chain tackle in the workroom by means of which the forward end of the car can be lifted to get at the under side when necessary. The pit was always an inconvenient place to work, and was usually cold and unsatisfactory, and it was almost impossible to get light enough under the car to see to work. The best arrangement for a tackle, is a triple chain tackler which is geared so that a man can easily lift the heaviest car.

It will be found convenient if the building has a second storey to have a big trap door over the motor room through which can be hoisted the tops of cars which are not in use.

In any building it is necessary to have as much light and air as possible, and especially in the workroom. The artificial lighting, of course, should all be by electricity on account of the danger from gasoline.

The most convenient arrangement for moving cars in a limited space is the small, low, four wheeled trucks, one of which is placed under each front wheel of the car and with this it is possible to turn a car around in its own length. They are arranged with a little sloping shoe so that the wheel of the car is easily rolled up on the truck.



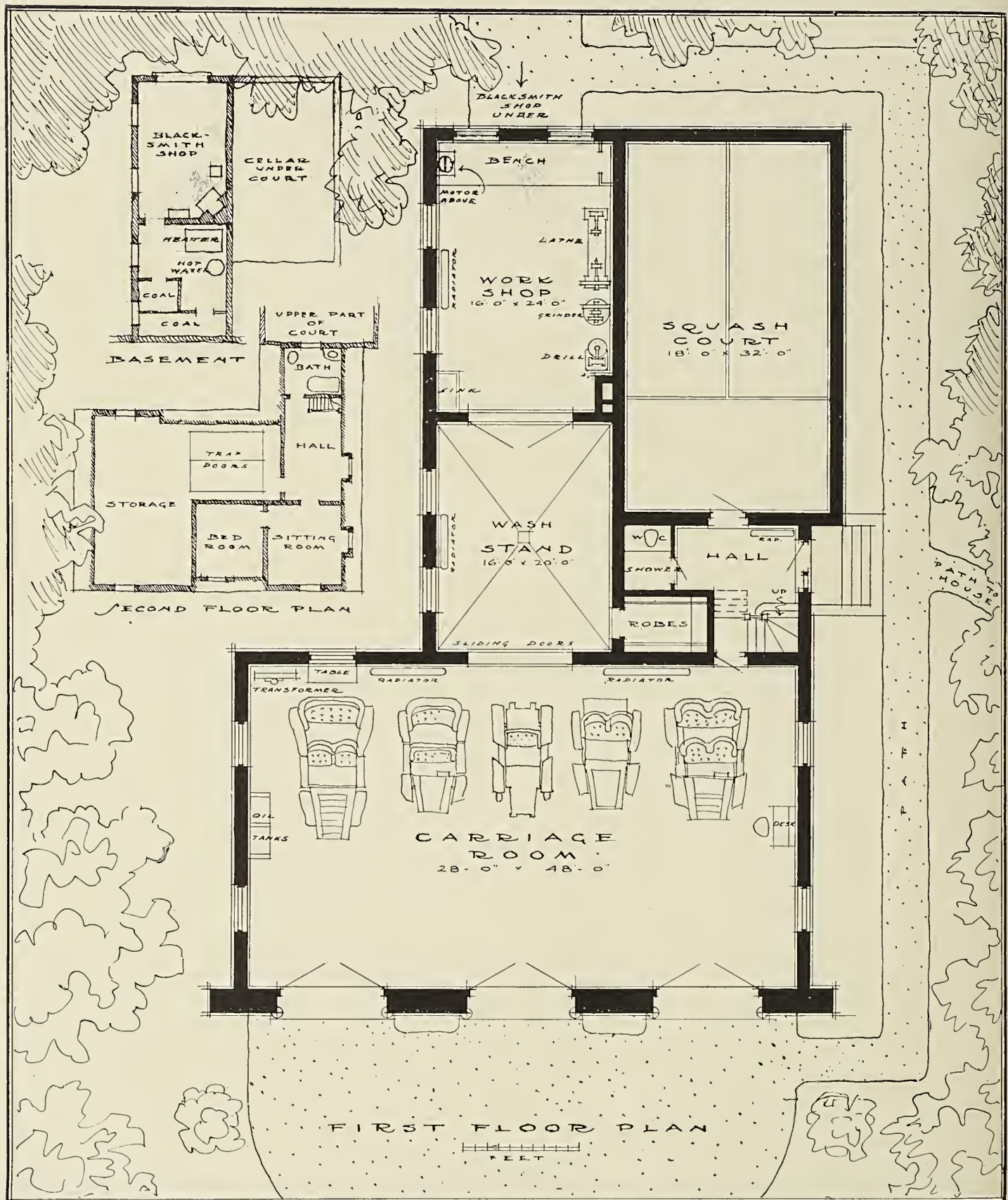
PLAN OF MR. DENEGRE'S GARAGE



MR. DENEGRE'S GARAGE, MANCHESTER, MASSACHUSETTS

A brief description of the houses shown in the illustrations will probably be of interest. The first one is a small house which was built in Framingham, Mass., which was designed by Charles M. Baker. It is a simple little building, but he has arranged the planting about it so attractively that its effect is most charming. It is built on piers, and has a wood floor and the framing and boarding of the walls and roof show from the inside. The exterior is shingled. The total cost complete was about \$250.

The second one was designed by Andrews, Jaques & Rantoul, Architects, and built at Cohasset, Mass., and cost about \$1200. This little building is very cleverly planned to guard against the possibility of fire. The walls of the auto room are of brick 8 inches thick, and as will be seen from the sketch, the wall between the workshop and the auto room is carried up above the roof which completely cuts



GARAGE OF MR. E. B. DANE, CHESTNUT HILL, MASSACHUSETTS

The Private Garage



FRONT VIEW OF MR. DANE'S GARAGE

off the motor room from the rest of the building. The floors of the workshop and auto room are of cement laid on a bed of broken stone with no basement under. The floors of the porch, man's room and bath are of wood and there is enough space under them to keep them warm in winter. The walls of the shop are of wood with the framing showing inside, and the walls of the man's room and bath are sheathed with hard pine sheathing, stained. All the rooms are finished up to the roof with the roof timbers showing. The whole exterior is plastered.

The third illustration shows a house which was designed by Allen W. Jackson for himself, and built in Cambridge, Mass. It was necessary in this case, on account of the size of the lot of land, to build a room for a motor car in connection with the house, and as will be seen* this was done at the service end of the house. This room is completely isolated from the rest of the house, being enclosed by brick walls and the ceiling and floor are fireproof, being built of Guastavino vaults. The room being shaped as it is, is admirably adapted to its use, as the alcove with its work-bench and

outside entrance is well fitted for a workshop, and there is sufficient room all around the car to get at it comfortably for cleaning it. The floor is of cement and pitched to a drain, under the car. This fireproof room probably added five or six hundred dollars to the cost of the house.

The fourth photograph with its plan shows a most interesting solution of the garage problem on a larger scale. It is one built at Manchester, Mass., for W. D. Denegre, Esq. and was designed by Andrews, Jaques & Rantoul at a cost of approximately \$5,000. As will be seen by the plan it was designed to accommodate four carriages, and is arranged so that each carriage stands opposite its own door which, of course, is the ideal arrangement where it is possible. It has the advantage also of economy in construction, as it enables the motor room to be made narrow from back to front, as no space need be given in front of the cars to allow for turning in going out. The workshop is located at the side of the cars and is amply lighted, having a window at both ends and a skylight overhead. The blacksmith shop, which is used both in connection with the garage and the farm buildings on the estate, is completely cut off from the rest of the building on account of danger from gasoline. In one corner of

*This interesting house was fully described and illustrated in the issue of *HOUSE AND GARDEN* for December, 1905.



CAR ROOM OF MR. DANE'S GARAGE

this room is the small steam heater, which heats the building in winter. At the rear of the blacksmith shop is the battery room. This room is filled with racks for storage batteries, which are charged from the dynamo which is located in a corner of the workshop. This dynamo is run by a small gasoline engine, and from these batteries the electricity is supplied for lighting the buildings and driveways of the estate. The batteries for the automobile are also charged from this dynamo. The floors are all concrete and are all pitched to drain so that the whole building may be washed out with hose and water. The floor of the carriage room is pitched to drains under each car and each car may be washed in its own position as room is allowed around each so that the others may not be wet. The walls are built of wood, plastered on the outside, and sheathed on the inside up to the roof. The roof timbers and boarding are exposed on the inside in all the rooms.

One of the most complete houses that has been built in this country, although perhaps not as large as some, is one that is shown in the fifth set of plans and photographs. It was built for Mr. E. B. Dane at Chestnut Hill, a suburb of Boston, and was designed by Andrews, Jaques & Rantoul, Architects.

As an actual working scheme this plan is about as well arranged as is possible. The carriage room is

liberal in size, which allows the cars to be moved to and from the wash-stand and workshop with ease without taking them out of doors. The wash-stand is located opposite the centre door and the car is run directly on to it on its return to the house. Then if a visit to the workshop happens to be necessary it is run straight into it, and can be taken back into the carriage room without the necessity of turning any corners, which are always difficult when a machine is not under power.

This building is situated at the edge of a slope of land which brings the back part of the building well out of ground, and allows for a blacksmith shop in the basement, which can be entered on a level grade from the stables which are in the rear of the garage. A plan of the basement is shown with the heater room, which contains a steam heater for heating the building in winter and a small hot water boiler for the plumbing.

The second storey has two rooms and a bath room for the chauffeur and also a large storage loft with a trap door from below.

In connection with this building is a squash court, the floor of which is a little above the basement level and is entered from a side door down the side of the hill. The court being 18 feet high extends through two storeys, and has a gallery a little above

The Private Garage

the levels of the first floor. There is also a shower bath and toilet room just outside the court with a closet for rackets, etc. under the robe room on the first floor. The floor of the carriage room is of granolithic, and laid on a bed of broken stone. The floors of the wash-stand and workshop are framed with steel beams with concrete construction and covered with granolithic floor. The walls of all the rooms, except the second storey, and the court, show the brick on the inside. The second floor is of mill framing of hard pine so the entire building is about as fireproof as it is possible to make it.

The workshop is a most interesting part of the building, and is fitted with the most modern machinery for this sort of work, and it is possible with this outfit, and the skill of the chauffeur, to make or repair any part of an automobile without the necessity of ever sending it away to have the work done. It contains a work-bench of liberal size, and the lathe, emery wheel and buffer, and the drill in the

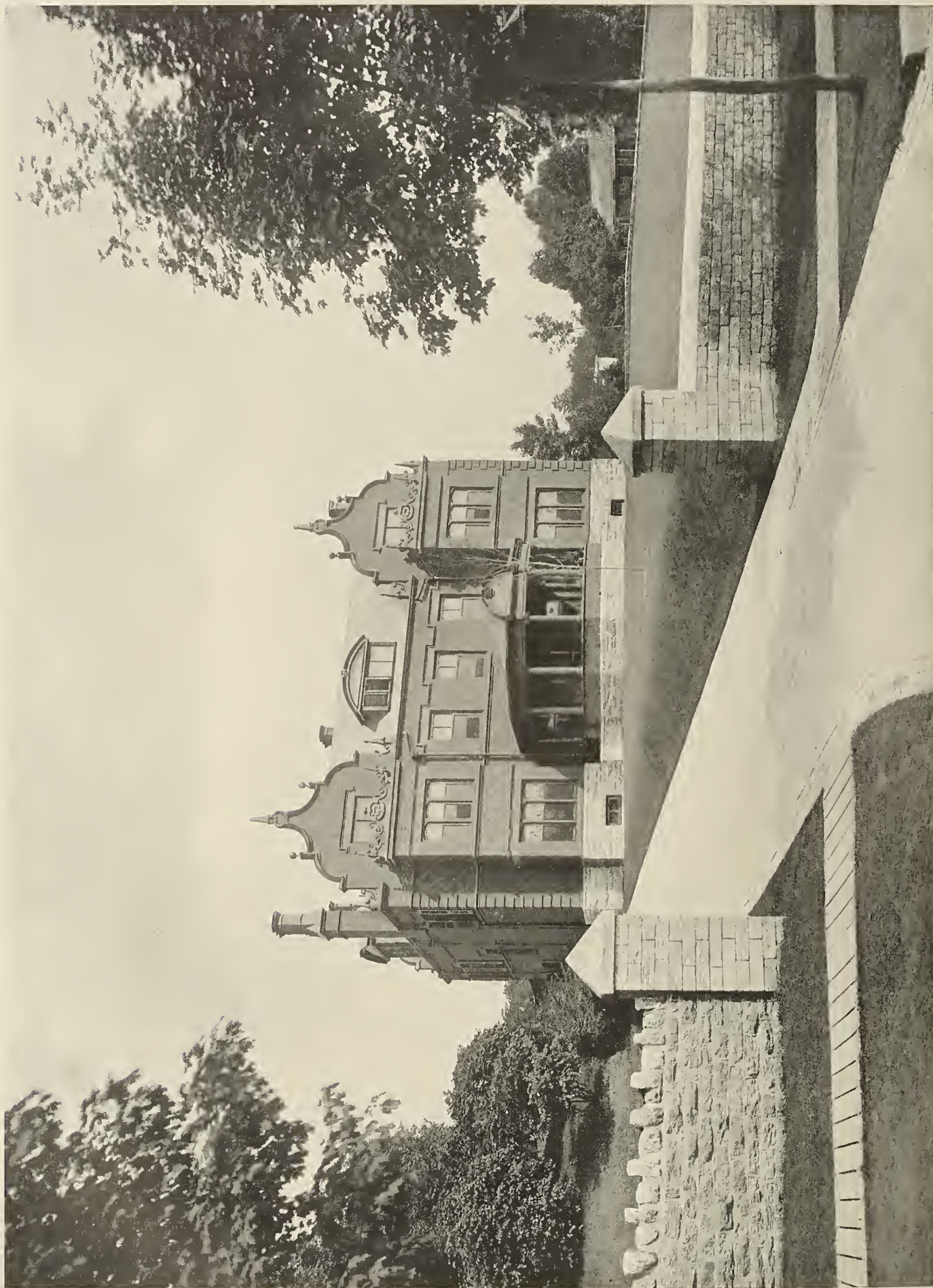
corner next the door are all run by a little two horse power electric motor, which stands on a shelf over one end of the bench.

The charging of the electric batteries which are used both in the electric and gasoline cars is done in the garage, by a transformer which changes the street current from an alternating one, which is the one used in Chestnut Hill, to the direct one necessary to charge the storage batteries. In this room are also the oil tanks, in which is stored the lubricating oil used on the cars and machinery.

The gasoline is stored in two one hundred gallon tanks, which are placed underground at the side of the drive, about 50 feet from the garage, and the gasoline is pumped into a can with a small hand pump. Two small tanks are used instead of one large one, so that the chauffeur may be warned when new gasoline is needed by the exhaustion of half of the quantity stored. The gasoline storage is the danger point in the building.



THE GARAGE FROM THE HOUSE



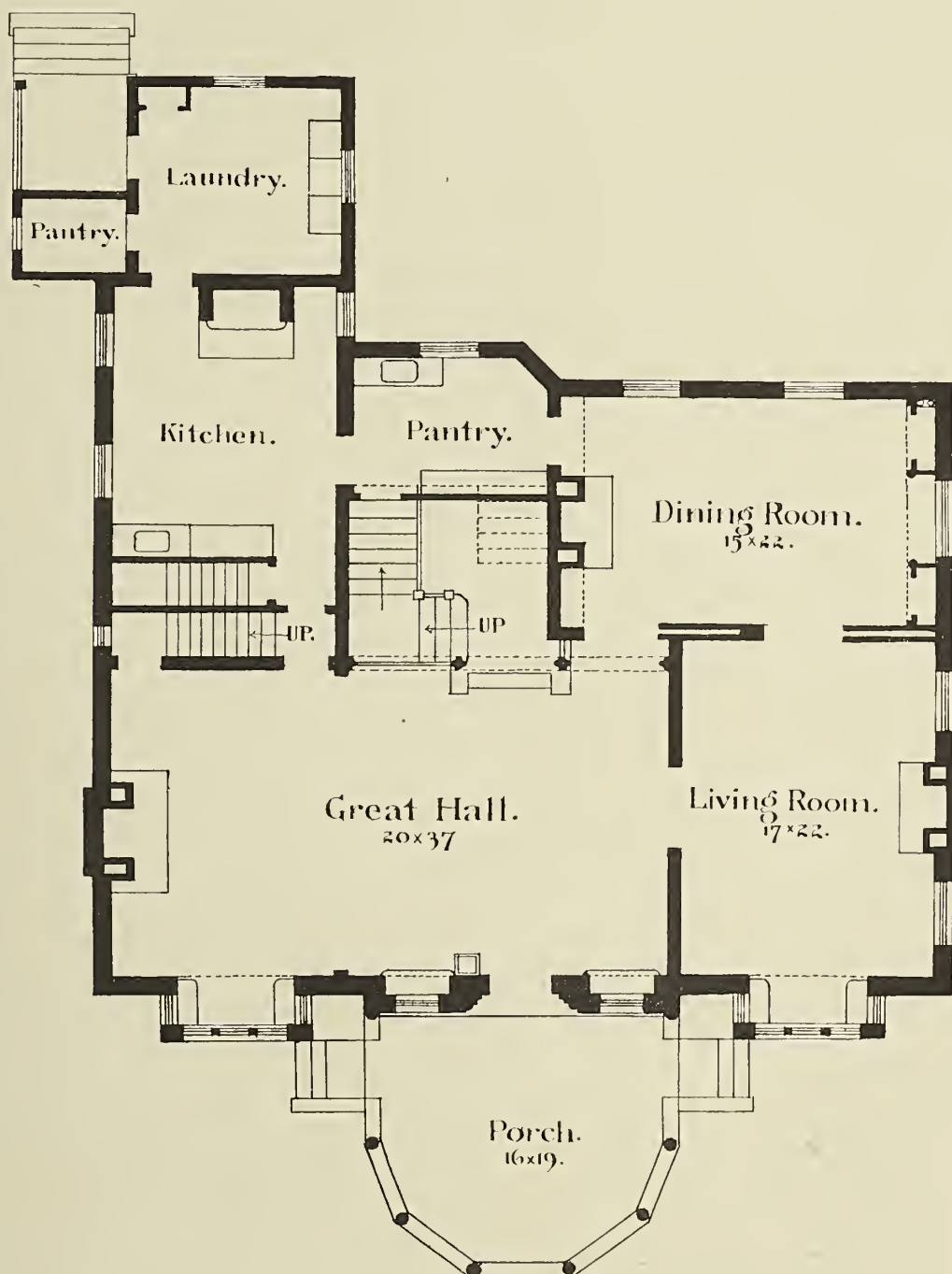
THE HOLTON HOUSE FROM UPSAL STREET

AN ELIZABETHAN HOUSE IN GERMANTOWN

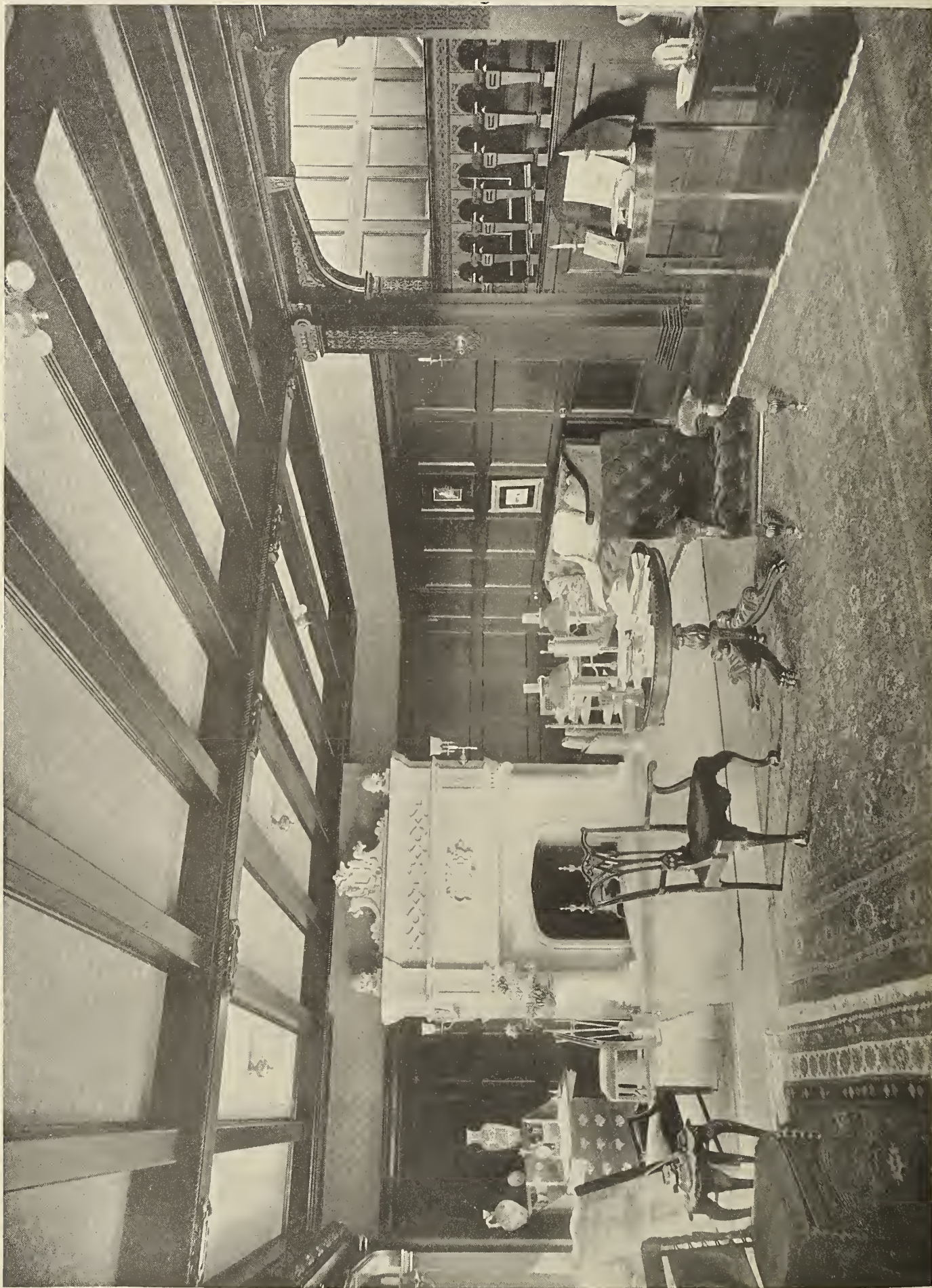
GEORGE T. PEARSON, Architect

THE accompanying pictures show the residence of Mr. S. Pearce Holton on Upsal Street, Germantown, Philadelphia, the site being raised considerably above the street level on one of the several knolls in that locality. It is the first instance of an Elizabethan treatment in Germantown, and is of a dark red brick with red stone doorway and dressings,

terra-cotta copings, etc. This type of house was selected because it was thought that it might prove a welcome innovation in the monotony of the Germantown gray stone houses abounding in the neighborhood, and also because of its ample field for interesting interior detail and rich coloring. This style has been consistently followed throughout.

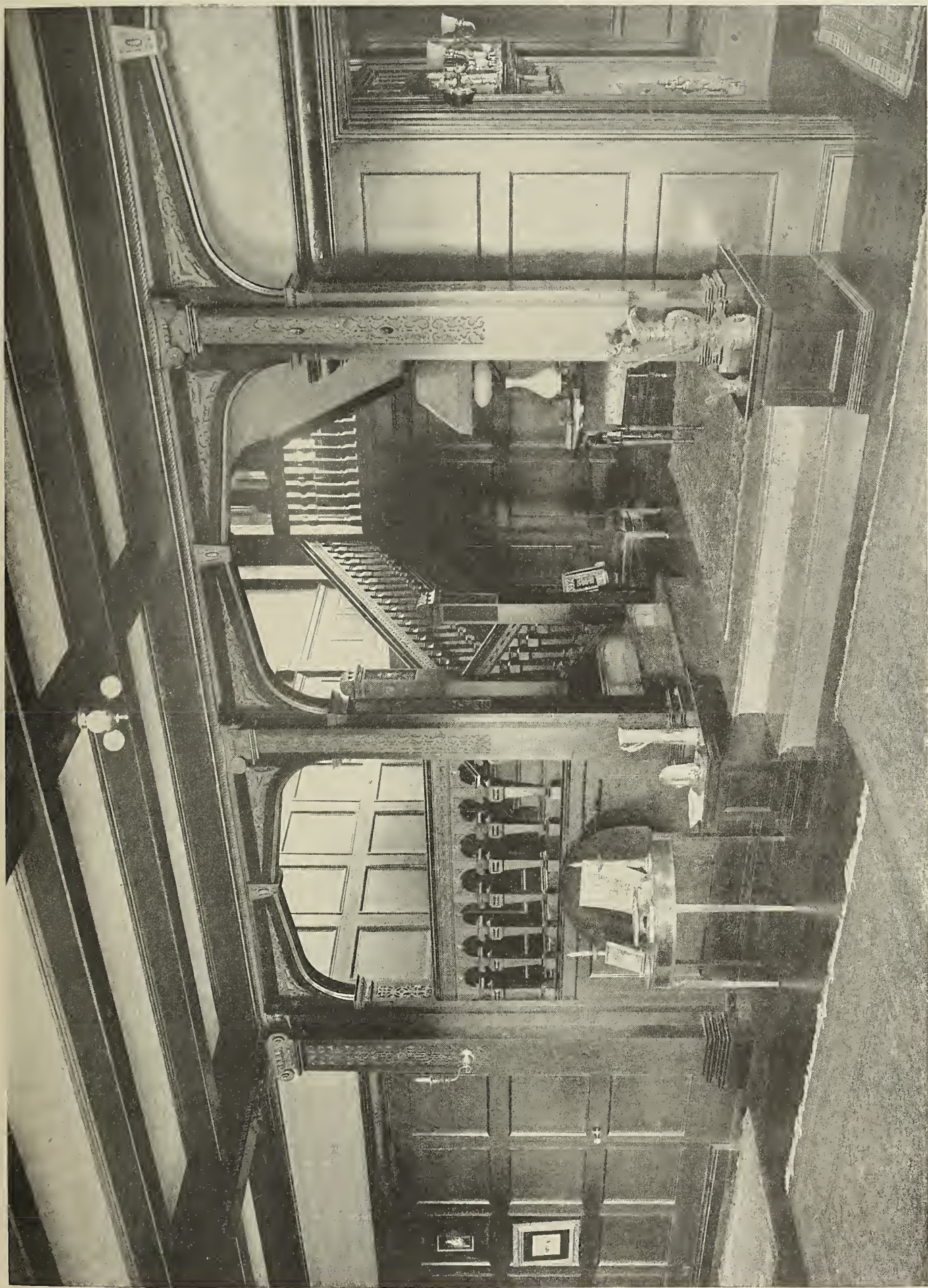


PLAN OF FIRST STORY



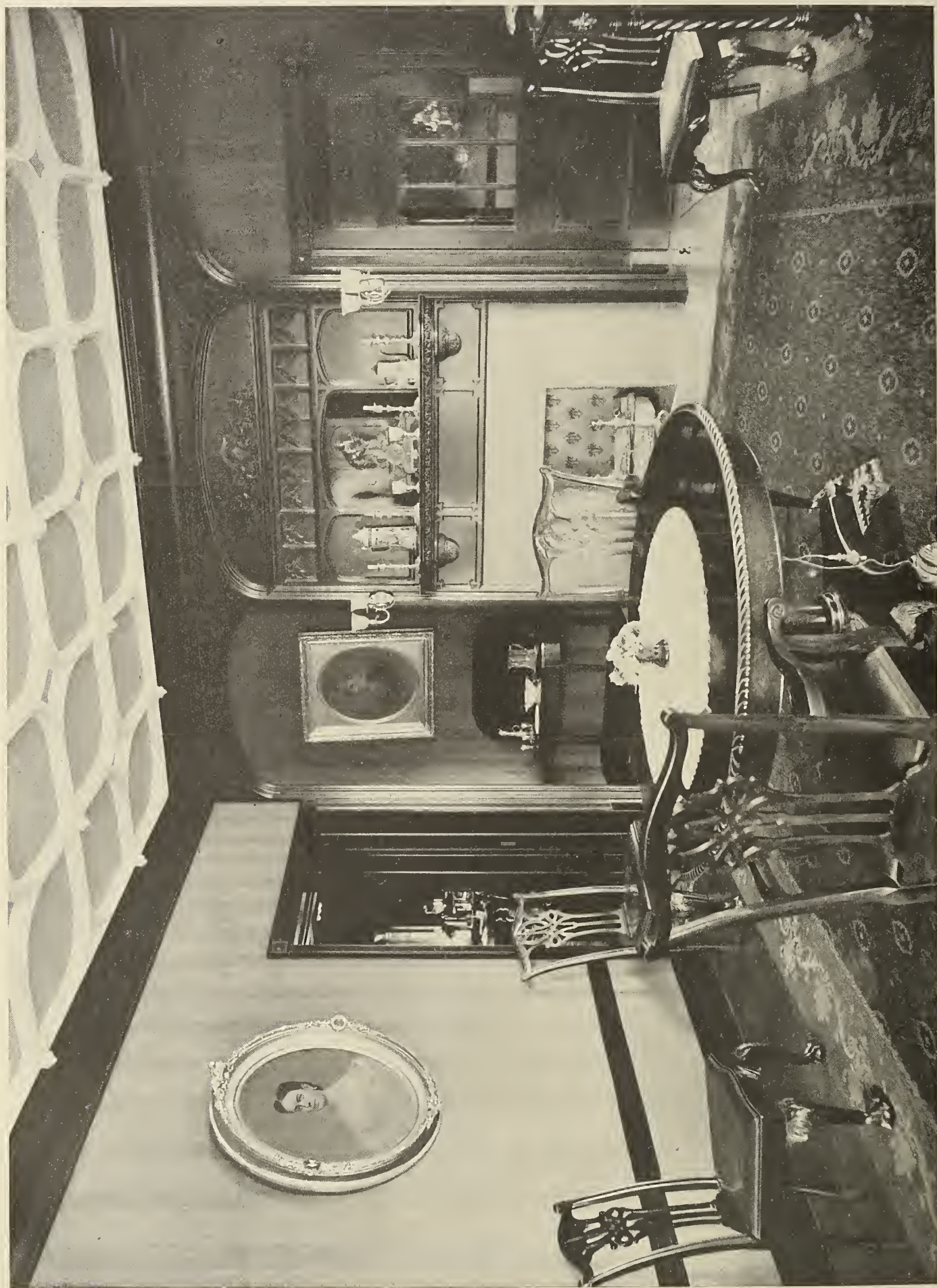
THE HOLT HOUSE, GERMANTOWN—THE GREAT HALL.

GEO. T. PEARSON, Architect



THE HOLT HOUSE, GERMANTOWN—VIEW OF THE STAIRCASE

GEO. T. PEARSON, Architect



THE HOLT HOUSE, GERMANTOWN—THE DINING-ROOM



THE HOLT HOUSE, GERMANTOWN—THE LIVING-ROOM

GEO. T. PEARSON, Architect

THE BEAUTIFUL COSMOS

BY CLARENCE M. WEED



THE WHITE COSMOS

THE cosmos is one of the most satisfactory annuals for a border garden, both on account of the grace of its foliage and the beauty of its blossoms. It may be grown as easily as any of the garden vegetables and on account of the size and density of its foliage it may be used to great advantage along fences, walls and the sides of buildings. By choosing the tall varieties to plant next to the wall or fence and the dwarf varieties to plant in front one may get a most beautiful effect during the latter part

of the season, the flowers of the dwarf forms beginning practically at the ground and extending upward for many feet with a beautiful background of foliage for their display. Last October I saw some cosmos in Massachusetts bearing blossoms at a height of more than ten feet, producing one of the most striking effects I have ever seen in landscape gardening.

The seed of the cosmos may be started in a hot-bed, greenhouse or window-garden early in the season and transplanted out of doors when danger of frost is past. Or the seeds may be planted in a drill out-of-doors in May and the young seedlings transplanted, when they are an inch or two high, to the place where they are to grow. These seedlings are vigorous little plants with a compact root system, so that they are very easy to transplant. In a rich soil and with plenty of moisture they grow with great rapidity, sending up fine, fern-like foliage which gives an attractive effect long before the flowers appear. Even the buds have a decidedly decorative value, being rounded in general outline though flattened on the outer end and more or less enclosed by a double row of long, pointed, green, leaf-like growths called bracts.

When the flowers appear the plant becomes very conspicuous and attractive. Three sorts are commonly grown. In one the flowers are a beautiful glistening white, in another they are an exquisite pink color and in a third they are a deep red, the last named variety being the least attractive of the three.

The structure of the flower in each of these sorts of cosmos is similar. Around the base of the blossom there is a double row of long, pointed, deep green bracts, with a more definite lighter colored series above them. The chief attractiveness of the blossom is given by the petal-like ray florets, of which there are usually eight and which are sent



A JAPANESE FLOWER JAR WITH COSMOS

Planning the Garden

out in a plane at right angles to the axis of the flower. These petals are grooved in a most interesting fashion and are scalloped on the outer ends in a way that adds greatly to their decorative effect. In the petals of the pink variety, the color of which is really a light violet-red, there is at the base a spot of rose color which forms a delightful bit of what artists call a dominant harmony. The disc florets which form the eye of the flower have a general yellow color due to the yellow petals united into tiny tubes, and the yellow pollen which is pushed out through the stamen tubes, the latter being brownish black.

The cosmos has so great a spread of branches for the size of the stalk that they are most likely to remain erect when planted against the shelter of the wall or fence. This is also the place where their beauty is shown to best advantage. They may be made more stocky by pinching off the terminal buds, but this of course will lessen their height.

For use indoors, where they are extremely effective for ornament, these flowers require a spreading arrangement which shall simulate their manner of growth outside. Two or three sprays projecting from a slender vase and showing stems, leaves, buds and flowers are exceedingly effective, especially if placed against a plain background gray, or gray-green in tone. A larger display in a broader flower jar may also easily be made one of the most beautiful flower arrangements imaginable.



PINK COSMOS IN TOSA JAR

PLANNING THE GARDEN

BY IDA D. BENNETT

IT is generally conceded that "a thing well begun is half done," and certain it is that a well planned garden, where all the details have been carefully thought out, is practically a successful garden.

The first essential in planning a garden is to know just what one wants. This is not always as simple as it would seem, so many attractive features appeal to one in the floral world, while one's garden space is often so limited that choice must be more or less restricted.

Just at present the general trend of public taste seems to centre round the hardy gardens of our forefathers, and they have much to recommend them. The location of the hardy garden, however, should be quite distinct from that enjoyed by the garden devoted to bedding and ornamental plants, which preserve their attractiveness throughout the whole season.

These latter may be given a conspicuous position near the house where they will add to and constitute a part of the general scheme of development, while

the hardy garden should be relegated to the rear or side of the premises or even separated from the house grounds by a hedge of evergreens or blossoming shrubs.

A warm, sunny position, protected from cold rough winds by trees or shrubbery on the north and west, and sloping gradually toward the south, is preferable and a warm, sandy loam will give best results; this should be well enriched with old, well decayed manure, and dug deep and thoroughly.

The form and dimensions of the beds will depend upon the plants used, certain plants appearing to better advantage when grown in long rows, as the iris which gives beautiful results when grown in long rows—the longer the better. Foxgloves, on the other hand, while beautiful in long rows, are also fine in beds or clumps, and are very striking when growing on the edge of the water garden or pool.

Hydrangeas form beautiful hedges and are admirable for boundaries, they are also very fine when grown in large oval beds of a number of plants.

House and Garden

A good plan in arranging a garden is to have a large central bed, which may be either a water pool for lotus, a rockery or bed of flowers, or even a large circle of emerald turf, surrounding a sundial, or a garden table and seats, surmounted by an immense Japanese umbrella, and the beds and paths radiating from this. The beds, starting from this more or less restricted centre will be narrow at first but will gradually widen as they near the limits of the garden.

In planning a garden it should be borne in mind that the paths must be used for something more than to walk in. The wheelbarrow or hand cart must be a frequent visitor, at least during the fall and spring months when the care of the garden is much in evidence, and ample room for movement should be provided as nothing is more annoying than narrow paths to work in; narrow paths, too, are unsightly and give the garden a crowded, untidy effect.

The nature of the paths must depend largely upon the amount of expenditure one feels like making; dirt paths need constant weeding and are exceedingly unpleasant to work on, while gravel, so dear to the heart of the English gardener, makes work on them a penitential season, especially when performed on one's knees. A well drained cement walk is, perhaps, the ideal walk, but must be constructed with a keen eye to the drainage, that it may dry promptly after a rain and not hold water on its surface. For a cheap, comfortable walk, perhaps no better material can be found than common hard coal ashes, sifted and laid three or four inches deep and well rolled. If in addition to this it is given a foundation of a few inches of gravel, a smooth, elastic walk, which dries quickly after rain and costs practically nothing, is secured. Sod walks are beautiful, but impractical. They require an amount of care that is out of all proportion to the effect, the grass is constantly encroaching upon the beds and must be kept cut out with the spade, while it is difficult to run the lawn mower close enough to the edge to trim evenly without doing more or less injury to the beds, thus necessitating the use of the shears.

Then, too, the paths are always wet in the early morning and late afternoon and immediately after a rain—just those times when one most cares to work or stroll in the garden. The ideal path should dry quickly after rain, be elastic to the tread and smooth to kneel or work on.

In planning the hardy garden, those plants which give the longest season of bloom should be selected for the more conspicuous positions, which will be, usually, from the centre of the garden, especially if this centre is composed of a bit of lawn and seats. Many of the early blooming varieties of hardy shrubs and plants, while very beautiful in them-

selves, have so short a season of bloom that they should be massed well toward the back of the beds and the front of the beds filled with lower growing forms or annuals. There are many edging plants, both among the perennials and annuals that may be utilized here to good advantage, chief among these is the double English daisy, which is in bloom from the first vanishing of the snows until they come again. The schizanthus is another pretty border plant of the annual calendar, suitable for edging. The new varieties grow about a foot high and during their season of bloom are a solid mass of flowers; unfortunately they die quickly after blooming and must be removed. A very good edger for the hardy beds is found in the summer oxalis, which starts promptly from spring planted bulbs and blooms continuously all summer. There is, also, a dwarf zinnia that is very desirable here, being of an intense cardinal scarlet, about a foot in height and a most profuse bloomer all summer. The hypericum is a very desirable, low growing, perennial that may be planted in front of masses of taller plants and is very beautiful.

In arranging the garden some attention must be paid to the color scheme if an harmonious effect is to be realized. It should be remembered that while red and blue do not combine harmoniously, different shades of red, as magenta and scarlet, are scarcely more happy. On the other hand most shades of red, rose and pink are beautiful with lavender, and a liberal amount of white much increases the brilliancy of the other colors. Blues should, as far as practicable, be planted in the rear as it increases the apparent distance, thus increasing the (apparent) dimensions of the garden, while such colors as scarlet and yellow, when planted in the rear, by bringing the boundaries nearer decrease the apparent size of the garden.

If the garden space is limited to one garden and there is, consequently no separate rose garden, the front of the perennial beds affords a desirable place for the hybrid perpetuals, and teas, thus assuring a continuity of bloom throughout the season. Roses grown in connection with the hardy garden, however, must not be mixed with other plants but have a clear space to themselves and be kept free from weeds and well cultivated throughout the summer. These radiating beds, starting from a narrow point, and increasing in width towards the rear are very satisfactory for growing roses as the front rows cannot hide those in the rear, but allow all to be seen, while the hardy shrubbery in the rear forms a background, which shows off the roses to good advantage.

Another point that requires careful consideration in planning the garden, that is in deciding what plants shall be grown, is to guard against planting trouble in the form of plants that spread from the

The Hardy Garden

roots unduly or self sow to a troublesome extent. Among the first named may be cited the *Bocconia*, a noble growing plant some six or eight feet in height, with large, effective foliage of a light, glaucous green, lined with white and sprays of fine white flowers a foot or more in length. This plant runs under ground forming rhizomes from every joint of which a new plant starts, and it is for this reason extremely difficult to destroy once it has gained a foothold, as the smallest piece left in the ground, will grow and form a new plant. As, however, it is a very effective plant it should be grown with proper precautions, which consists of planting it in a strong frame, a box or hogshhead, with the bottom removed. Thus grown it is powerless to cause trouble and forms a valuable addition to the hardy garden.

The *Bignonia radicans* is another plant requiring similar precautions and should never be allowed to form seed as the seedlings establish themselves so firmly before making themselves conspicuous that it is often difficult to dislodge them, and I am not certain that, planted where they can cause trouble, it would not be well to leave the bottoms in the boxes or barrels in which they are planted, so deeply do they sink their roots.

Poppies, petunias, foxgloves, sweet alyssum and the cleomes are among the plants which self sow freely and, with the exception of the foxglove, are apt to prove troublesome. When they come up in the paths they may be removed by scalding, salting or the application of sulphuric acid or milk, this latter being quite fatal to plant life.

THE HARDY GARDEN

BY ERNEST HEMMING

THERE is no class of plants so peculiarly adapted to awaken interest in all who live in the country to the delights of gardening as the hardy perennials. That they require neither greenhouse nor graduate horticulturist to grow them is testified by many a cottage garden with its wealth of glorious bloom.

The returning popularity of the old-fashioned hardy garden, has led to many attempts to reproduce some of the more notable ones of colonial times, as well as those that strike the travellers' fancy abroad. The latter does not often prove a success owing to the climate.

Like the architecture of the country, garden design in America seems to be a mixture of many styles, made imperative by our climate and surroundings. In one place we may see an Italian, in another an English garden and so on yet all have features that are more or less American. The actual reproduction is practically impossible under American skies, even were it desirable.

While design is an important factor in a garden, the well-being of the plants must always hold first place. A garden without any pretence of laying out, is a success if filled with thrifty plants, and a garden designed with the utmost care and ability is a failure if the plants that compose it do not look happy. The same is true of an individual plant or group of plants. However beautiful a bed of English primroses or wallflowers may be in an English garden, they would not be as satisfactory in an American garden as some plant more suited to the climate, so that the first consideration is to procure plants adapted to the locality and situation. The

second to place the plants where they will look the most natural.

There is no class of plants more adaptable or more interesting than the hardy perennials. Roughly speaking it includes all the plants that die down to the ground and shoot up from the roots the spring following or at their appointed season. Coming under this head are such well-known plants as the pæony, hollyhock, iris, phlox, columbine and a host of other well-known garden plants, but in addition to these are plants culled from every portion of the northern and southern temperate zones of the world, not forgetting the many beautiful natives of our woods and fields. With such a variety to choose from it would be strange if worthy plants could not be selected to suit every possible condition or location. All are more or less of an unconventional habit of growth. When a formal effect is required, very careful selection must be made, or when their surroundings are of an artificial character. In the accompanying illustration will be noted a well placed border of hardy perennials, such a border will always have some flowers in bloom which will help to relieve the sombre effect of the trees, and soften the line formed by the closely mown lawn and the natural planting.

The round bed in the foreground is more in keeping with the artificial conditions of the home and would look well without a natural background. It is planted with plants of a more tropical nature. The bold striking plant in the centre is *Musa Ensete* or Abyssinian banana, the surrounding plants being cannas and ornamental grasses. The plant standing alone to the front of the round bed is the



THE EFFECT OF A ROUND BED NEAR THE BORDER



HARDY PERENNIALS IN A ROCKY BORDER

The Hardy Garden



THE OLD-FASHIONED WAY BESIDE THE GARDEN PATH

yucca, a native of the South Western States, a plant that glories in the sunshine and perhaps looks best near rocks, or in a position in keeping with its native habitat, where luxurious foliage is not so often seen as arid wastes.

Our second illustration shows a better position for it. Several specimens may be seen growing among the rocks. Rockeries or rock gardens are more often a failure than otherwise, owing to the difficulty of placing them where they will have appropriate surroundings. If, however, they can be built where they do not look too artificial and where sufficient moisture is provided, there is nothing better for showing off some of the choicer alpines or mountain plants.

The pockets and crevices formed by the rocks are ideal places in which to grow such plants as edelweiss, mountain pinks, stonecrops, saxifrages, hardy cacti for sunny spots and choice hardy ferns, hepaticas, anemones and such like for the shaded ones. If the grounds around the home are of a rocky, uneven character, after the utilities have had due consideration, it is a great mistake not to take advantage of the great possibilities in this feature of gardening. One has only to see the wonderful effects produced by the Japanese to realize how much can be done with a few stones, and how much art is required to place a single stone in its proper position.

If a criticism of American design is at all justifiable it would certainly be of the tendency to make all gardens look alike, instead of originality and individuality.

Perhaps one of the most popular and from a utilitarian point of view, the best arrangement for growing a collection of hardy perennials, is the mixed border as shown in the illustration. In such a border flowers may be had for house decoration from early spring until late fall. Beginning with the snowdrop, daffodil and violet before the snow has scarcely left the ground, each kind blooms in its allotted season through the summer months until the Japanese anemone and the last lingering hardy chrysanthemum mark the close of the season.

A glance at the illustration will reveal a symmetry in arrangement which brings all the low growing ones to the front along the path and the taller to the back without apparent effort. The clumps of the individual kinds should be large enough to give character, and care must be used not to get clashing colors in too close proximity to each other.

Color effects are almost an impossibility where massing is required to produce them, success rather depends on the continuity of bloom, and to produce this a large assortment must be used, or there will be seasons when the border will not look very attractive.

Nearly all kinds of annuals can safely be planted among perennials without their looking out of place. They are excellent to fill in the bare spaces caused by the dying down of some of the early flowering perennials. There is a subtle fitness in the correct position of every plant. This is indicated to a certain extent by the habit or the associations clinging to it. A geranium looks out of place among hardy perennials, plants of a sub-tropical aspect do not

mix well with native plants. Sweet peas may often be seen growing on a lawn when they would look much better in closer proximity to the kitchen garden. Ferns seem out of place unless they are growing in a shady moist situation and so on indefinitely. The reason for the proper placing of all may not be quite so obvious as the ones mentioned but they exist nevertheless, and to produce the proper harmony in the garden they must be observed.

GARDEN NOTES

BY EBEN E. REXFORD

THE house that is bare of vines always suggests to me a woman without the decorative accessories of lace, or a bit of embroidery. There need not be much of either, for a little will relieve the plainness of any costume, but there ought to be a touch of one or the other to break up the monotony.

(This is a man's opinion, and some of the women who read it may take exception to it, but I shall hold to it all the same.) It is on this principle that I assert that a house without vines is lacking in one of the most important features of beauty.

One of our best hardy vines is the honeysuckle. That is, for covering porches and piazzas. As a vine to make itself useful above the first storey, it is not desirable. The illustration which accompanies this article shows a veranda enclosed with wire netting over which this vine has been trained in such a manner as to secure ample shade, and a generally pleasing effect. The opening shown in the picture is easily arranged for by leaving out a strip of netting, and running a piece across at the top for the vines to clamber over.

One of our best annual vines for use about verandas and porches is the Japan hop. This plant has pretty, dark-green foliage irregularly marked with creamy white. It is of rapid growth, and very graceful habit. It grows readily from seed which should not be planted until all danger of frost is over.

The good old morning-glory is, after all, one of our very best flowering vines for general use. It flourishes in any soil, will clamber to the second storey windows, if given stout strings to cling to, and will bloom most profusely throughout the season. To train over doorways and up about the kitchen windows, it is the best of all annuals because it makes dense shade, and will always go just where you want it to, if you furnish proper support for it. Binder-twine is excellent for this purpose, as it is stout enough to support the great weight of a luxuriant growth of vines, without danger of giv-

ing way after a shower—something which frequently happens when cotton twine and other small strings are depended on.

Our best all-around vine for permanent use is ampelopsis. It will grow anywhere at the North, is of rapid development, has beautiful foliage in summer, and is gorgeous in its fall coloring of scarlet and maroon. No flowering vine can rival it in brilliance at that season. It will go to the



A HONEYSUCKLE-COVERED PORCH

chimney-tops, in time, and cover the roof, if you let it. There seems no limit to its possibilities in this direction.

Another excellent native vine is the clematis. It is beautiful when in full bloom, its delicate white flowers making its foliage look as if flecked with foam, when seen at a little distance. Later in the season, its silky-tailed seeds are as attractive as any flowers could be. The writer has a beautiful plant of it which was allowed to take possession of a lilac bush, as a support. It completely covered the bush, and was one of the most admired features of the home grounds, last season. In most localities of the middle West, this vine can be found growing in old fence corners, and the edges of woods, and it can easily be transplanted in the spring.

There is a variety of clematis of recent introduction, which deserves especial attention, because of its late flowering habit. It is in the height of its beauty in September and October after most vines have passed into "the sere-and-yellow-leaf" stage of their existence. Its foliage is a darker, richer, glossier green than that of the native clematis, and its flowers are larger and wider of petal, therefore much showier. They are borne in long sprays. A more graceful or beautiful vine it would be hard to imagine. It is of rampant habit, and, after the first season or two, will readily include the second storey of the house in its field of operations.

Too often we forget that the grounds about the house can be made vastly more attractive by the expenditure of a little time, labor and money. Or, if we do not forget the fact, we neglect to be governed by it, and the consequence is that the house-grounds are lacking in little beauty spots which might be constructed with very little trouble. Last season I was greatly pleased with a house of rustic construction, which a friend of mine had built at some distance from the dwelling, ostensibly as a store-house for garden tools, but really because he thought a structure of some kind would add attraction to that part of the grounds. And he was right about it. The building was made of posts set into the ground, boarded over, and finished with bark put on as



HOW THE VINES ADDED AN ELEMENT OF BEAUTY TO THE TOOL HOUSE

shown in the illustration, and a shingle roof. Over it was trained the Japan hop of which I have already spoken. This was made use of temporarily, because of its rapid growth, but an ampelopsis was set out with a view to its covering the structure permanently, after the first season. The house is a most attractive feature of the place. The children of the family petitioned the "powers that be" to turn it over to them as a play-house, and very likely it will be turned into that this season. But, as tool-house or play-house, it serves a purpose which I am glad to call attention to, and I trust the picture will so please some reader that he will undertake the construction of a similar building on his home grounds. A roofed, but uninclosed pavilion, with vines trained up its posts, makes a most delightful summer-house, and one in which the whole family will spend a good deal of its time during the hot season, if it is made large enough to accommodate a hammock and half a dozen chairs constructed on lines conducive to ease-taking and solid comfort. And the beauty of it is any man or boy, with ordinary ingenuity, and a little knowledge of the use of tools, can build such a house without the assistance of a professional, and, in the building of it,

get more pleasure than he could out of almost anything else he might undertake.

If there is a stream near the house, or anywhere on the grounds, the boys of the family will take delight in building a rustic bridge over it, if they get a little encouragement from the father. Such work not only amuses them, but it is one phase of a practical education. It teaches them how to use saw and hammer and square. And it makes them quick to see the beauties of outline, and the combination of grace and utility that can be worked out in even a little bridge over a brook. If there does not happen to be a brook to span, it is possible that there may be a ravine which can take the place of one, over which a bridge would be convenient, as well as attractive. I believe in educating the boys to an appreciation of the possibilities of home-beautifying, and in encouraging them to make the most of whatever qualifications they may have in this direction. Boys like to originate and they like to have credit given for all that deserves commendation. One of the most effective ways to make a boy take an interest in his home is by getting him to do something to make it pleasant. There is much about any place that boys can do, and will do, willingly, if they are given to understand that you would like to have them do it. This may be a digression from garden-talk, but, after all, *is it?* Aren't the boys growing plants in the home garden?

I hope that every owner of a home will set out at least one peony plant this spring, if there is none growing there. This because I consider the peony one of the very best of our hardy plants for the ornamentation of the home grounds. It is hardy, robust, wonderfully showy when in bloom, and increases in size and value indefinitely, if given proper care. And the care required is slight. It should be liberally manured each season, taking care not to disturb its roots in working the manure into the soil. If this is done, and grass is kept from growing close about it, your plant will soon develop into one of great size, from which scores of magnificent flowers can be expected annually, and these will increase in size and quantity as the plant grows older. The peony does best in a rather heavy soil. It strongly resents any interference with its roots. Disturb them this season and you will probably get no flowers from it next season. Therefore, if your friend who admires your peony begs for a bit of it, steel your heart against the promptings of friendship and say "No" to the request. And, having said it, stand by your decision, much as it "goes against the grain" to refuse. You can have fine peonies only by leaving their roots undisturbed. Keep that in mind, and when anyone asks for "just a little toe" of your plant, give, instead, the catalogue of some dealer who can furnish all the roots anyone is willing to pay for. Peonies are among our most

valuable flowers for cutting. Five or six expanded blossoms, a few buds just ready to open, and a quantity of its own foliage will make a magnificent decoration for the parlor.

Perennial phlox is another hardy plant that I cannot too strongly recommend to the attention of anyone who is planning to add to her list of border-plants this season. It will "take care of itself" better than any other plant I have any knowledge of. But because it *can* do this, it ought not to be obliged to, for it will do so much better with proper culture that it ought always to be well cultivated. In order to get the most out of it, it should be given a rich soil, and never be left to fight for possession of its quarters with weeds and grass. When neglected, it will seldom grow to a height of more than two feet, or two feet and a half, but the same plant hoed about and manured, will often attain a height of five feet, and send up scores of stout stalks, topped with enormous panicles of bloom. We have no other flower that gives such a solid mass of color.

To secure best results from it, it should be planted in groups. By using some of the tall growing varieties at the rear, then a variety of medium height, with dwarf sorts in the foreground, it is an easy matter to secure a great bank of bloom in scarlet, crimson, carmine, lilac, mauve, or white. Each color can be used separately with fine effect, or in combinations of harmonious colors. The white sorts relieve all other colors, and harmonize with them perfectly, but beware of putting the lilacs or mauves with the crimsons or carmines, if you do not care to have a color-discord that will positively make the eye ache. But these lilacs and mauves, when used with the white sorts, at some distance from their more brilliant-hued relatives, are so dainty in tone and tint that you will be delighted with them.

Right here, let me say that it is an excellent plan to divide old plants of this phlox, and, for that matter, nearly all border plants that have been neglected so long that they seem to need a renewal of vitality. Cut them apart and make new plants of the portions removed. Fill in about the part left with rich soil, and by midsummer your old plants will be as thrifty and luxuriant as when in their prime, and your new ones will be better in every way than the old ones would have been if given no attention.

Are you going to put out any shrubs this spring? If so, why not plant an English hawthorn? To my mind this is one of the most beautiful of all our shrubs, with its shining, dark foliage and clustering clusters of dainty white flowers. Its unopened buds are almost as beautiful as the expanded flowers.

Have you ever grown *Daphne Cneorum*? If not you have a treat in store for yourself. This evergreen shrub—better known in many localities as

Garden Notes

garland-flower, because of the wreath-like character of its branches—is of low, spreading habit. Early in spring, and at intervals thereafter throughout the season, it bears a profusion of soft pink flowers, as fragrant as they are beautiful. Because of its low growth it should be given a place near the path, or in the foreground of taller shrubs. If given a place where it can have an evergreen for a background, it will be more effective than when planted in an exposed position.

All shrubs ought to be carefully pruned each season. There will be weak branches that need removal. If thick, there should be a good deal of thinning out done, to admit of a free circulation of air, and give the inner branches an equal chance with those on the outside of the bush. If any branches have suffered in winter, they should either be wholly cut away, or cut back to sound healthy wood. If there is lack of symmetrical development, shear away the too rank growth until the plant is brought into proper shape. But beware of going to the extreme of shaping it into a formality and primness which will be quite as bad as the plant's own mistake in developing branches where none were needed, or of making luxuriant growth, in places, at the expense of other branches.

But, know your shrub before you prune it. By that I mean this: Be sure not to cut back, at this season, such plants as the lilac, whose buds were formed last fall, for, if you do so, you destroy the crop of bloom in proportion to the thoroughness of your pruning. Let such plants bloom and *then* prune them. Spring pruning is for shrubs which make some growth of branch before they bloom, like the rose.

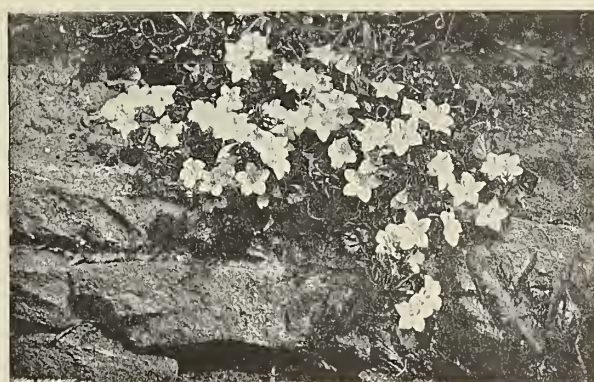
All shrubs ought to have the grass hoed away from them early in the spring, and a liberal amount of fine manure worked in about their roots. Barnyard manure is best of all, if you can get it, but if it is not obtainable, commercial fertilizers can be used with good result. To keep a shrub in good condition for a term of years, it must be fed well each season.

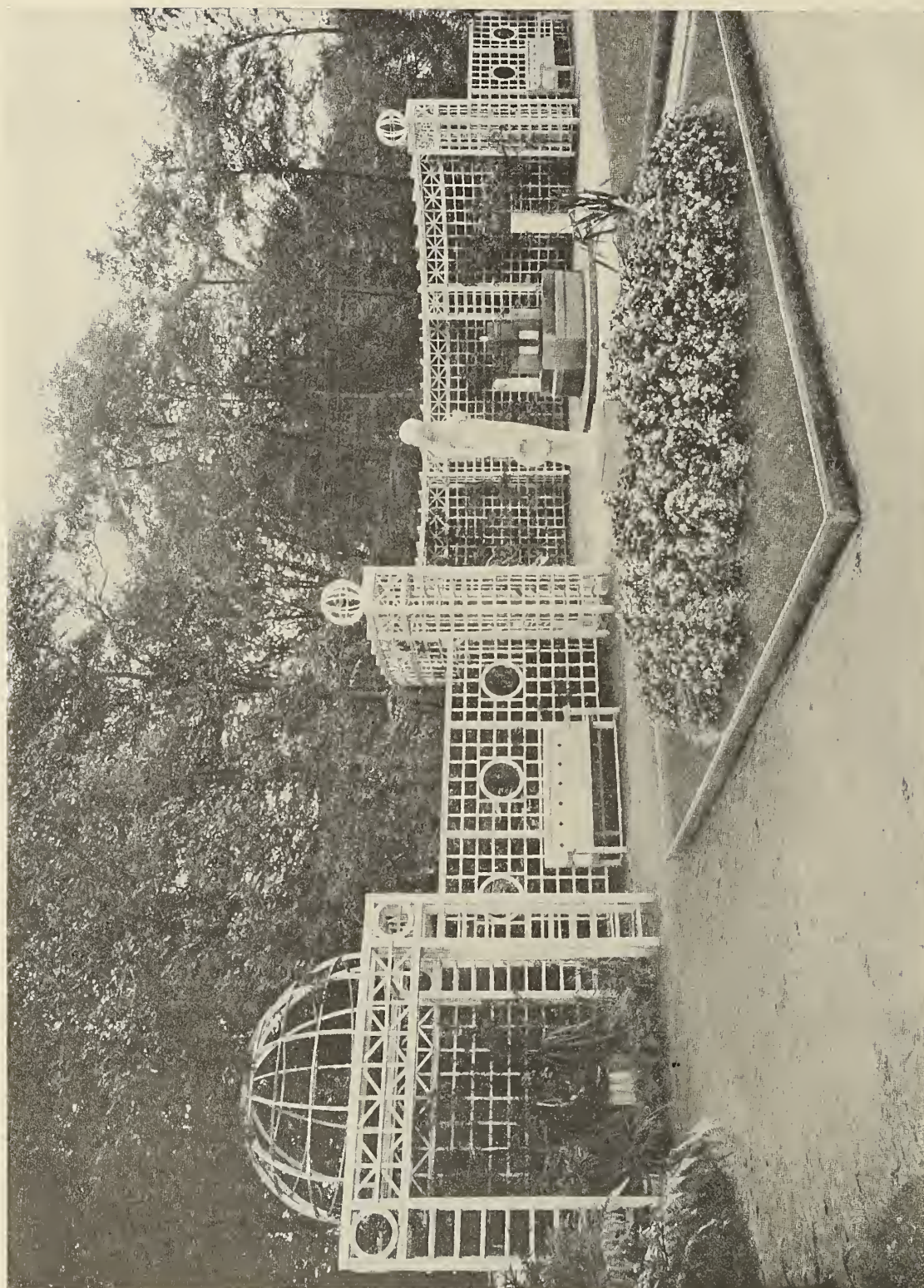
A lady asks what I use to keep insects from destroy-



ENGLISH HAWTHORN IN FULL BLOOM

ing roses. My standby in the insecticide line is the ordinary Ivory soap of household use, half a cake melted and added to a pailful of water. Apply the infusion with a garden sprayer, being careful to get it to the underside of the leaves. I do not wait for the insects to come, but take it for granted they are coming, and treat my plants as if they were already there. In this way I prevent their gaining a foothold on my plants. It is the "ounce of prevention" that is "worth a pound of cure."





A BACKGROUND OF WHITE TRELLISWORK OF WOOD

THE GARDEN AND ITS FURNITURE

BY GILLIAM FIELD

MUCH more goes to the making of a true garden than flowers, shrubs and pathways. Such a garden, set down in the midst of the fields, would appear desolate and incomplete, lacking boundary walls and trellises, fountains and shelters, seats for rest and

contemplation, and even tables for our attendant creature comforts. Especially is this true of the domestic garden, the *jardin intime*, the garden which lies next the house and forms a part of it, an outdoor living-room for fair weather and reflective moods. In the stately gardens of the Italian Renaissance, as d'Este for fine example, in the charming domestic garden of the peristyle of the Vettii at Pompeii; in the fair Egyptian garden so quaintly pictured upon the tomb walls at Thebes, all these accessories give vitality and accent to the more natural components of the scene; and their use in all ages of garden design shows the

fundamental quality of their aid as giving definiteness and completeness to the scheme.

For these accessories all materials have been employed, according to the importance of the composition or the fancy of the designer: marble, stone, brickwork, stucco, ironwork, or wood. Marble for the stately formal garden; brickwork or stucco for the more homely though not less dignified design;

metal work rarely, and to be used with best judgment under penalty of dire failure; but woodwork for the garden wholly of domestic and familiar aspect, though a material not incapable of maintaining itself with dignity in even larger or more

strictly formal compositions.

Woodwork painted white is the basis of the treatment shown in these charming examples, for which we are indebted to recent issues of *Dekorative Kunst*—examples having that air of freshness of conception so characteristic of the better phases of modern German design, decorative or other. Here is the shelter for a decorative fountain which, supporting the green shade of a vine punctuated with accents of purple flower, would add immensely to the charm of the effect of the sculptural element of the composition.

As a scenic background for a large public garden, the illustration shown on page 182 is de-

cidedly effective. This was designed for use in connection with the Northwestern Germany Exhibition held in Oldenburg in 1905.

The quasi-temporary character of the enterprise justified the use of the white woodwork and the form of trellises and shelters on so large a scale and these showed with excellent effect against the dark background of the woods behind. The design and con-



A SHELTER FOR THE SUSANNA FOUNTAIN



SOME NOVEL PIECES SHOWN AT A RECENT EXHIBITION

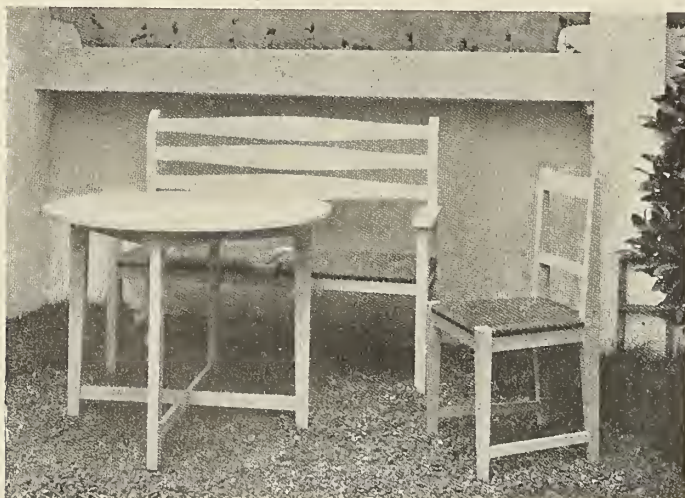
struction of these garden adjuncts is of the simplest character, and it is indeed the essential simplicity and restraint of the design which makes them so effective where a pretentiousness born of complex lines, less rigid and restrained in their combinations would have made such a use of woodwork inadmissible.

In the examples of minor garden furniture, illustrated on pages 184 and 185, this same simplicity

of outline and careful adaptation of the material to its uses, having due regard also to exposure to the weather, results in that air of appropriateness which is so characteristic of these pieces.

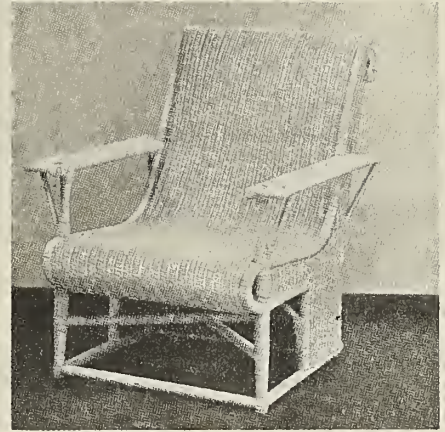
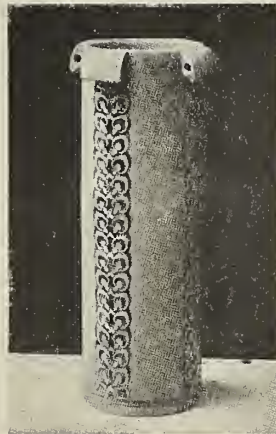
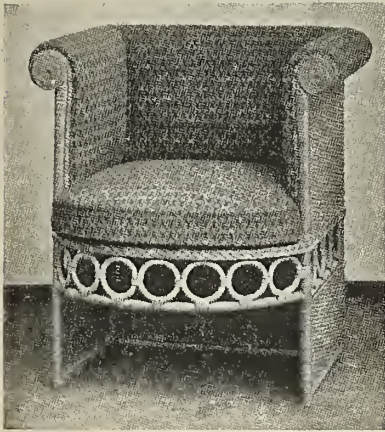
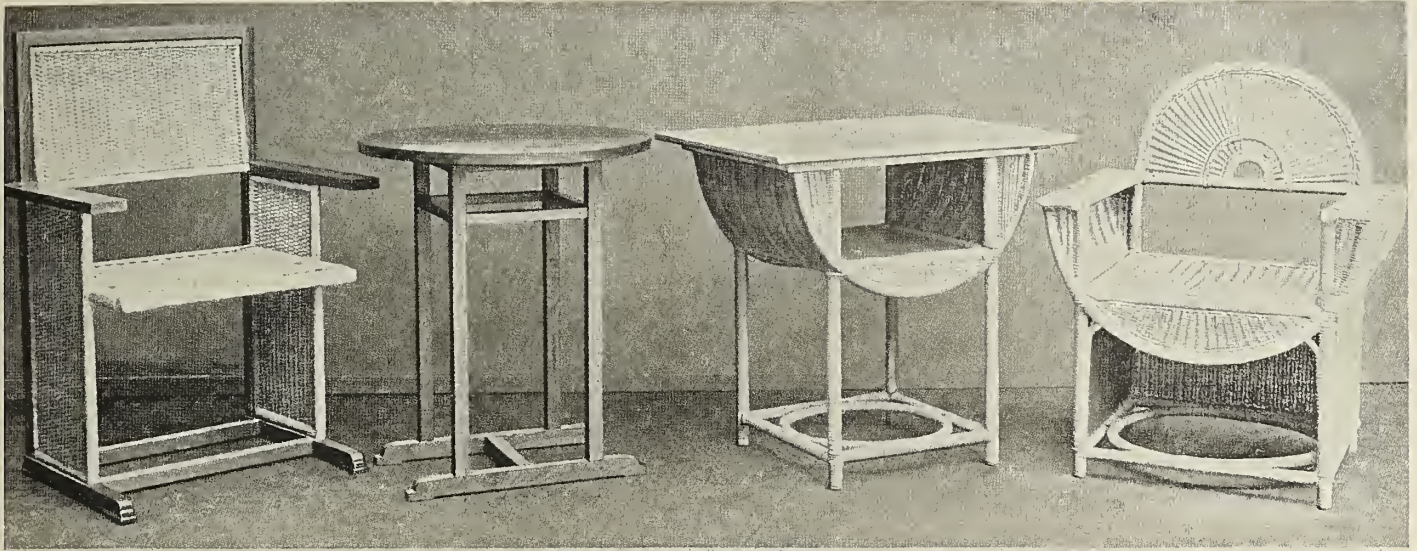
In the example of the "red garden" of the Darmstadt Garden Exhibition of 1905, shown on page 186, we see a quaint and somewhat Japanesque effect produced by the same means.

Garden development in our country is in so early a stage, as yet, especially as regards the smaller private garden, that we seldom make real use of our opportunities, even if we pay attention to the garden at all. Usually, in our smaller gardens, we are content to lay them out and plant them on a modest scale, but merely as something to be looked at from the house windows—our own, or our neighbor's—rather than used. This is due to two causes. First because we are apt to run away from home in summer, when the garden is most usable; and, secondly because we do not understand how to go about the use. Even on city lots, our tea tables and easy chairs in the garden may be skilfully and completely screened from the curious eyes of our neighbors, without burying them too deeply in their sheltered retreats, whether of pergola, tea-house or arbor. In rural or suburban gardens the problem of course is more easily solved.



A SIMPLE GROUP

The Garden and its Furniture



EXAMPLES OF WICKERWORK FURNITURE

The value of out-of-door life both for the well and the ill is being insistently preached to-day by the medical profession and the garden is one of the means ready to hand for its accomplishment. Half the time spent indoors during six or seven months of the year might be more profitably spent in the garden—which should be regarded primarily as an out-door family living-room, and freely so used.

We have rather lost the art, indeed, of so using the garden, for in our great grandmother's time the old English idea of its relation to the house had

by no means died out. It did finally lose its force and then our gardens were neglected and forgotten. Within a decade the revival has taken place, but almost wholly to meet

the demands of the owners of the great houses now building, for display without as well as within. It is quite certain that in many such cases there is no real sense of enjoyment of the garden for itself, but only for what the garden visibly stands for—the affluence of the owner.

It is then, in connection with the more modest, and perhaps more real, home, that the garden stands in need of recognition and sympathy, which will be

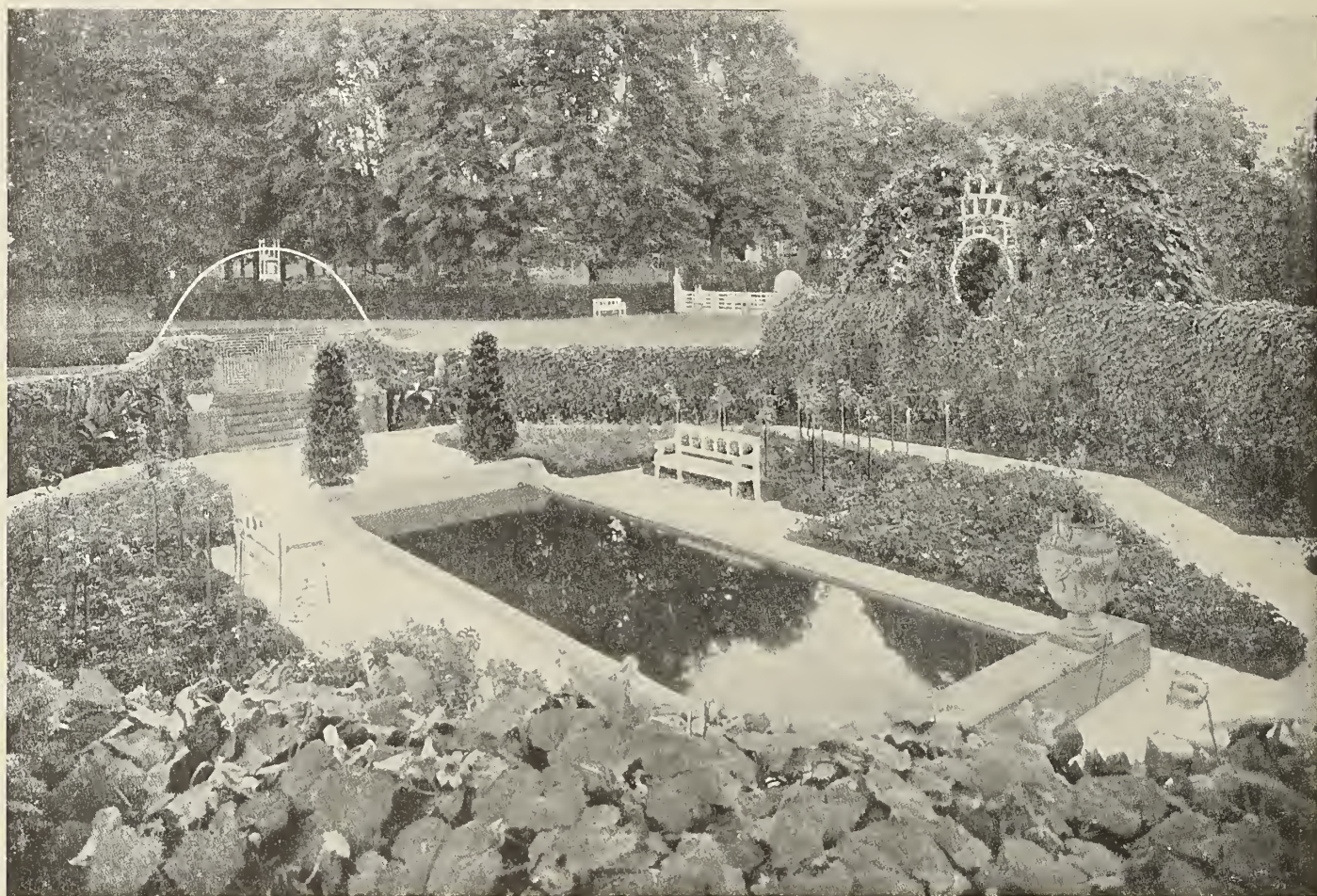


A GARDEN TABLE



THE USE OF BLACK IRONWORK

House and Garden



THE RED GARDEN

well repaid by the pleasure which comes from such sympathetic use. And for this use, such adjuncts as are pictured here, or others of their kind, are indispensable. As well a room without its furniture as a garden without its seats, tables, chairs, benches, tea-rooms, pergolas, arbors, sun-dial, walls, terraces and steps up and down.

A recent writer has defined gardening as "the art of peace and luxury," but this does injustice. An art of peace of course, but by no means necessarily of luxury unless one be thinking only of the stately garden of the Italian and French Renaissance. Gardening, though not, perhaps, primarily a domestic art—since the garden in some form is, or should be, considered an indispensable setting of every building; a link between art and nature—ought to be regarded by the householder of even the most moderate income as an opportunity for adding to the charm of home life by simple and inexpensive means.

On this point we cannot do better than quote the following passage from Mr. Clipston Sturgis' paper on the English Garden:†

"The whole attitude of mind of the Englishman

is the desire to satisfy a need rather than to supply a luxury, and therefore this is generally found to be the chief motive in the laying out of his garden. The great majority of English gardens have developed in direct response to practical needs, and if one studies these needs and sees how they have been met, the history of nine-tenths of the English gardens is given.

"Before taking up in detail the needs which decide the character of the grounds more removed from the house, it will be well to point out that the English invariably carry into their grounds the same desire for privacy and separation which is noticeable in the house. The careful separation of the kitchen and offices from the master's quarters has already been remarked, and a similar separation is to be found between other parts of the household and between individual rooms. The nurseries are apart; the master's own rooms are apart; the guest-rooms are apart; and finally, except in suites of rooms used only for entertainment, the individual rooms are well divided from each other. This same principle underlies the garden plan. The place is considered as an outdoor house. The grounds are divided up according to their use, and each portion has its well established boundaries."

†In "European and Japanese Gardens," Philadelphia. Henry T. Coates & Co., 1902,

THE DISPOSAL OF WASTES FROM COUNTRY HOUSES

BY ALBERT PRIESTMAN

SEWAGE treatment is a subject of which the exigencies of mankind demand that everyone should have at least some general knowledge. The days are far past when the health of communities was regulated by the imperfect knowledge of hygiene, possessed almost exclusively by the medical profession. Steam and electricity have wrought wonderful changes. These mediums by which force has been harnessed for the service of us all, have so changed the habits of our lives, that it has been imperative that each generation should take a more active part than its predecessor, in studying the conditions governing a healthy existence, amid the ever increasing populations inhabiting our cities and suburbs.

We may shudder at the remembrance of the unsanitary domestic arrangements of our forefathers, and of the regrettably high rate of mortality consequent upon the proximity of the pump to the kitchen and outhouses, but at least we must admit that it was seldom that village streams were not a pleasure to look upon, with their waters inhabited by fish, and their banks healthful places for a quiet hour. In this past fifty years of strenuous effort after wealth, and in the rush for place and power, it would appear as though we had become careless of the license taken by manufacturers, by our neighbors and by ourselves, to pollute rivers, streams and ground waters with the offscourings of streets, factories, and dwellings. Seemingly the larger por-

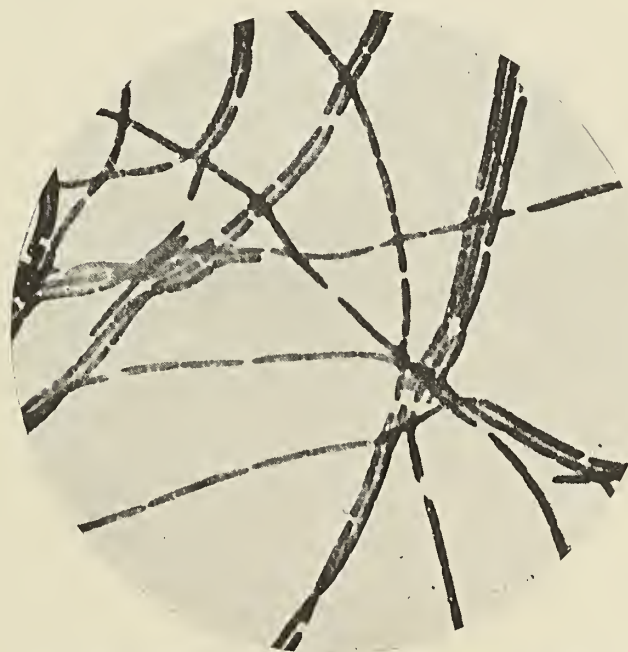
tion of our population is content in the erroneous belief that such pollution is unavoidable; that small watercourses in thickly populated districts must of necessity never again be expected to be inodorous and that if once then always, must fresh water fish give place to sewage. It is fortunate that although late in the day, a reaction is setting in, that our schools, colleges, and technical institutions are imparting the knowledge of a better way, and that the young voter is now ready to support at the polls, the enactment of laws, which shall call a halt to this hitherto deplorable condition of affairs.

We must not overlook the fact that every one of us is more or less to blame for what is wrong in regard to this important matter of sewage disposal. On the other hand it is much more a case of ignorance than anything else, which has held in check the advancement in the practical application of the knowledge, which fortunately has been greatly increased of recent years in this branch of sanitary science. It is our purpose, therefore, to speak of some of the truths underlying this subject, which have now been well established, and which, as they become better known, cannot fail to bring about a more united effort in abolishing abuses, which today, alas, are a scandal to our boasted civilization.

In another issue we shall give particulars with illustrations of sewage disposal works for residential service, constructed upon strictly bacterial lines, and explain the reasons for the various parts, by the com-



AEROBIC BACTERIA WHICH BREATHE AIR AND CHANGE ANIMAL AND VEGETABLE INTO MINERAL MATTER



SAPROPHITIC BACTERIA. CONSUMES DEAD ORGANIC MATTER



PARASITIC BACTERIA WHICH ATTACK LIVING TISSUES

bined use of which satisfactory results are obtained. Inasmuch, however, as all methods of sewage treatment depend upon, or are preliminary to, bacterial action, it is of interest to consider first the natural laws governing these life processes, without which all efforts at sewage purification would be futile.

Let it be clearly understood that to change organic matter into harmless compounds, it must be burned. Therefore, to burn by fire or oxidation, is the only practical way of destroying filth. A simple example is afforded by impurities in our blood, which in the presence of air are oxidized or burned up in the lungs, from which we exhale, in the form of carbonic acid gas, the products of combustion. Kitchen refuse in cities is burned at garbage works, and in the country districts much is destroyed by being fed to pigs and poultry, while the remainder is turned into manure and feeds the land, the top soil of which contains countless millions of lower organisms.

It is all changed by fast or slow oxidation. The same law applies to the excretions of men and animals. These always contain aerobic or oxidizing bacteria, as well as those organisms which prepare sewage for being oxidized. It is not uncommon for a single gallon of sewage water, of which 1-1000th part only is polluting matter, to contain 24,802,000, 000 of these little scavengers. This is approximately the number per gallon in the sewage of the city of London.

Here then indeed, is a force provided by nature, of immeasurable service. Were it to cease, all forms of life would quickly become extinct. The number of the known varieties of health preserving bacteria is upward of four hundred, or ten times that of the pathogenic or disease producing species, which mi-

nority is fortunately to a greater or lesser degree "crowded out" of existence by the vastly superior numbers of health protecting antagonists. The relative numbers of these two classes of bacteria have frequently been compared to the proportion that law abiding citizens bear to criminals in a community. The laws which govern the action of bacteria are not as dissimilar from those under which mankind exists as might be supposed. To the greater majority, air, moisture and food are requisites. Many varieties of these minute agents may be cultivated for the special purpose of sewage purification. That is to say, suitable environment and control will assist their life purposes. What are these life purposes? A generation has not passed since it was believed that sewage purified in soil, underwent changes, due entirely to chemical action. Now it is well established that these changes are the result of bacteria, a low form of vegetable life. The majority of those indigenous to sewage, belong to that class which are most active in the presence of air, and are known as "aerobes," the minority are known as "anaerobes," living without air. Of this latter class, a small number are "obligate anaerobes," which not only do not require oxygen, but may actually be inhibited or even killed by its presence, but the greater number are "facultative anaerobes," and can live either with or without oxygen. This is fortunate, seeing that sewage water may at one time contain little or no oxygen, while at another may be well oxygenated. The products also of bacteria, known as "enzymes," not only possess immense power in breaking up organic compounds, but enable a bacillus to act at a considerable distance, as well as in its immediate neighborhood.

These then, are the agents with which we must live in friendly relationship, if our highly civilized communities are not to be decimated by disease. It cannot be expected that the neglect of an army of such useful bacteria can take place with impunity. Food must not be lacking, and for the greater number of varieties, air is equally necessary. Although differences of opinion exist, it seems to be generally conceded that preliminary to the process of oxidizing sewage, it is wise to collect and retain it, not in ordinary cesspools, which are a menace to health, but in correctly designed and properly managed water tight reservoirs, known as "septic" or "resolution" tanks, because, (1) they avoid the deposit of solid matters at the entrance to passages leading downwards from the surface of the ground or other filtering material in which the sewage is purified; for, although in volume this solid matter is less than 1-1000th part that of the sewage water, it is sufficient to quickly interfere with the all important aeration of the interstices or spaces, in which the presence of air is a *sine qua non*, and which otherwise can only be insured by continual manual labor in raking the

The Disposal of Wastes from Country Houses

surfaces of the filter beds. (2) The use of tanks conveniently hides from sight the few floating objects, such as pieces of orange peel, which are not broken up in passage through the sewers, and which may offend the eye. (3) That, as the constituency of sewage is of the most variable character, containing acids and alkalis, it is beneficial, especially in cases where factory wastes are permitted to enter the sewers, that provision should be made for the blending of these varying mixtures. (4) Because the anaerobic action, which takes place in tanks correctly designed and operated, has been found not only to liquefy and gasify much of the solids in sewage, but also so to separate the particles and bring about other changes, as enables many times the volume to be treated on a given area, than would otherwise be practicable.

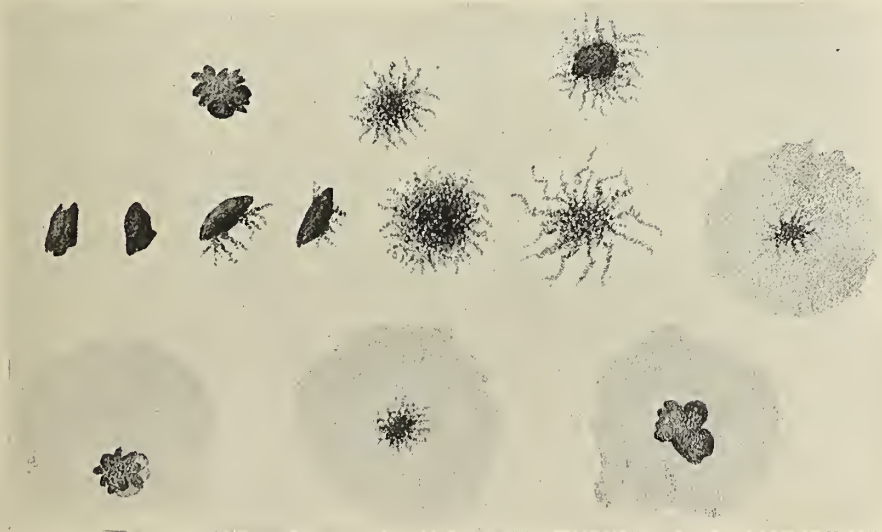
The capacity of these tanks should not permit of a storage of more than a single day's supply, (some authorities favoring as little as eight hours' detention), and its passage arranged so that the entire contents (with the exception of the small percentage of matters in suspension), will be expelled by the following day's inflow. If this is not accomplished, the poisonous excretions of the bacteria themselves will cause the sewage to come to an unhealthy condition, and instead of aiding in the work of purification, will defeat it. In the most successful examples, less than 10% of the suspended solids passes from these tanks, hence, 90% is kept from interfering with the subsequent treatment of the invisible organic matters which are in solution, and which, be it remembered, form 3-4ths of the polluting matters in sewage waters. Complying with the conditions governing the mineralization of animal and vegetable matter in liquid form is the most important requirement in sewage purification, but the 1-4th of solids in suspension, when not satisfactorily handled, is

the most troublesome part of sewage treatment. More is yet to be learned in regard to this matter from the experience of those who have designed and installed the most recent sewage works, but sufficient is known to enable a clear distinction to be drawn between resolution tanks and filter beds, constructed consistent with a previous knowledge of the governing conditions, and those which have been designed in a haphazard fashion, of which unfortunately there are too many examples.

In relation to the second stage of sewage purification, if the volumes of sewage are not divided by natural or mechanical means, so as to avoid suffocating the very bacteria which for their life purposes require abundance of air, it is only to be expected that disappointment will be met with. There are five methods by which sewage oxidation may be successfully accomplished. It is seldom, however, that local conditions do not point the experienced expert to the adoption of one, or it may be a combination of two or more of these methods. In referring briefly to these, we would ask the reader to bear in mind that the object in each case is that of providing sewage as food for bacteria which require air also, and yet are so minute that 500,000 may easily inhabit a single drop of liquid.

Land Treatment.—This may be by broad irrigation, as in the case of sewage farms, where crops are raised and cattle fed, but which are operated with the primary object of disposing of sewage. In case of single residences, surface or subsurface irrigation is employed, in which sewage is flushed intermittently over a sloping surface of ground, or into "fields" of open jointed drain pipes sunk beneath the surface. In the use of these processes it is intended that the sewage shall be absorbed by the soil, and destroyed by the bacteria inhabiting it. The character of the ground, its location, area available, the volume of sewage to be handled, the manual attention necessary, are a few of the governing factors in the selection or rejection of this method.

Intermittent Subsidence Through Sand.—Provided that the grains of sand are of the right size, and that sewage is fed in intermittent doses of suitable volume, the liquid will be prevented from passing downwards too rapidly, and will be intermixed with sufficient air found in the voids in the sand to effect bacterial oxidation. This is a method than which there is no better, where all conditions are favorable, and by which upwards of ten times the volume treated by the last named method may be satisfactorily purified, and at a less cost for manual



ANAEROBIC BACTERIA WHICH LIQUEFY SOLIDS IN THE
ABSENCE OF AIR

attention if the doses are flushed automatically.

High Rate Streaming Filters.—These are coming into favorable notice. The Friern Barnet type, where sewage is intermittently spread over and percolates through sandy soil, thoroughly mixed with comparatively large and porous material, has proved to give excellent results. Great care must however be exercised in keeping a six inch top coating of sandy soil in proper condition, by raking, etc. to insure satisfactory results. This type has been little used in this country as yet, owing to the fact that in New England, (whose inhabitants have been the pioneers in sewage purification), suitable sand, can usually be found and made use of in its natural position.

Contact Beds.—These are water-tight reservoirs, 66% of the holding capacity of which is occupied by broken stone, coke, or other material of comparatively large size. The outlets from these beds are closed while the sewage is fed to them. The liquid, if well distributed over the top, passes downward over the surfaces of the material inhabited by bacteria. Collecting in the bed it “rests in contact” so as to permit of the polluting matters both in solution as well as those in suspension, gravitating to the pieces of broken stone or other material, and adhering to them by “mass action.” When the outlet is opened, the sewage water passes out of the contact bed, leaving behind it impurities to be consumed and mineralized by countless millions of bacteria, which are active during the hours in which the bed “rests empty” and aerates. The size of the material used allows of the passages between the pieces being sufficient to insure the subsequent drainage away of the mineralized particles. This is one of the varieties of what are termed “high rate methods,” for it is capable of producing a nonputrescible effluent on 1-50th the area requisite in land treatment, for dealing with an equal volume of sewage. The certainty, where reliable devices are employed, for automatically opening and closing the inlets and outlets to these beds, that sewage will be equally distributed throughout the whole bulk of the material, without danger of channels gradually forming, through which it may pass away untreated, has caused this to be the first high rate method to be widely used and which use, for certain practical reasons, is likely to continue in numerous cases and especially in cold climates, in

the face of a preference by some for later types of oxidizing filters.

Percolating Filters.—This name is usually employed in England for designating beds composed of large material, through which sewage is continually percolating and passing in thin films over the surface of the material, and always in the presence of air. They are rapidly claiming attention, on account of requiring only 1-10th% of the area required by sand filters. The success of this method is naturally dependent upon the manner in which the sewage is sprinkled, which must be in sufficiently fine streams to insure that it passes over the surfaces of the pieces of material from top to bottom, in so finely divided a state, that it does not flood the air passages. There are two methods of accomplishing this, one of which is, to spray the sewage through numerous fixed sprinklers. This is effective, but may prove objectionable if in close proximity to dwellings. The other method is to sprinkle by means of mechanically operated travelling distributors, which pass backward and forward over the filter bed, or where circular beds are constructed to revolve slowly. In this way, although sewage is continually being sprinkled, only a small portion of each filter is fed at one time, the remainder resting for about seven minutes, until the next turn of the distributor.

It will be seen therefore, that there are a number of distinct ways of successfully furnishing food to sewage consuming bacteria.

Neither chemical treatment, nor the most elaborate system of strainers, can do more than partially purify sewage water. Considering, therefore, that an average of from thirty to one hundred gallons of this water is daily contributed by every inhabitant using private and public sewers, and in view of the continually increasing need of guarding all drinking water supplies from contamination, it assuredly behooves us all to see to it, that sewage is not permitted to go untreated, but that the laws governing the work of these kindly agents, which nature has provided for our use in such liberal numbers, be painstakingly complied with. Thus may we facilitate the accomplishment of their life purposes in the improvement of our water courses, and the protection of our homes. To do less than this is morally wrong, if not legally criminal.

ARCHITECTURAL REFINEMENTS

DURING the past year the art world, not only of America but of Italy, France, and England as well, has been much agitated by a theory set forth with great elaboration of detail and abundance of illustration, by Professor Goodyear of the Brooklyn Institute of Arts and Sciences, regarding certain irregularities observable in the construction of many of the most important buildings of mediæval times. Mr. Goodyear announces the discovery, in short, that the builders of that age practiced a system of refinements quite similar in intent and effect to those which have hitherto been deemed the exclusive property of the builders of the Periclean age in Greece. By a long series of patient measurements supplemented by the testimony of many carefully taken photographs, Mr. Goodyear has established the fact that there is scarcely a single mediæval building of importance which does not display surprising and, as he claims, intentional variations from the horizontal and vertical in the lines of its walls and arcades; and he has demonstrated to his own satisfaction that these are the result of the clearest intention on the part of the builders, for the purpose above suggested. This theory of Mr. Goodyear's has found some adherents, but has also, among competent critics, found some determined opponents. So widespread is the interest which mediæval architecture has always excited, even among the general public, that we deem no apology necessary for the reproduction of the essential portions of a criticism which has recently appeared in the columns of our honored contemporary the *London Architectural Review*, an excellent journal which is far from being as widely known in this country as it deserves.

The writer, Mr. Edward S. Prior, the most eminent mediævalist of England, is one who, as the *Builder* recently and justly observed, "understands the spirit of mediæval architecture better than most men." Mr. Prior's discussion not only sets forth most clearly Professor Goodyear's contentions in detail, but deals with them in such a convincing way, with so much charm of manner, and with such courteous and gentle, though none the less incisive, irony, that his comments may be read with pleasure, even where the subject matter of his discussion necessarily diverges into purely technical fields of speculation.

The first reflection, says Mr. Prior, that comes to an architect when asked to take a new view of mediæval building and accept a new explanation of its beauty is a disheartening one. We have for such a long time been endeavoring to reproduce these architectural masterpieces of the Middle Ages! There have now been some five or six successive generations of architects copying the mediæval styles, and

all to no use. Each generation of stylists has had no difficulty in showing its predecessors to have been futile and superficial.

A hundred years ago a beginning was made with battlements, pinnacles, and ogee curves, and then the Wyatts or Wyatvilles seriously copied Salisbury to give Hereford a clerestory, and with great applause reconstructed abbeys and castles for romantic clients. But immediately their successors thought little of such efforts, for with Pugin and the ecclesiologists the Gothic revival was no scenic romance, but a faith! So the tale went on, and not faith alone, but a moral purpose was found to lie in foliations and vaulted construction—the only question was as to the particular phase of mediæval architecture in which the expression was most faithful and most moral. The next generation of architects therefore studied all and every phase. They measured and modelled, till from the offices of Scott, Street, and their able pupils came works in which not only the superficial aspects, but the very anatomies of mediæval construction were revived with every section and every joint exact to the life of some period or other. Yet Pearson found he could go one better! In the dramatic intensity of his mimicry he rendered the hesitating inexpertness of the Romanesque axe-choppers and detailed in all its experimenting indecision the Gothic advance from the lancet to the tracery bar. And now, when one has been to Edinburgh,* one must reconsider all this—at any rate so the Scotch reviews tell us—all this moral and religious exaltation, all these learnings of the tape and the sketch-book, all this dramatization of mediæval conditions. If Mr. Goodyear's exhibition means anything, it means that we moderns have failed—dismally failed—to produce any adequate representation of the mediæval building. And why? Because an unnoticed secret has lain hid behind the splendid shapings and bold constructions of the cathedral-builders and all the craft of their masonry. The true quality of mediæval architecture was not in such obvious things, but in *refinements*—in "optical refinements," in "perspective illusions," in "horizontal" and "vertical curves," in "leaning façades, asymmetries, and obliquities." A little wearily the architect asks, "Are we, then, to start afresh? Shall we skew our tee-squares, and crook-back our set squares? Shall we draw our elevations with the French curves and write 'deflections' and 'bends' in our specifications? Shall our quantities have it thus: 70 ft., extra only, for optical illusion?" We are told that already in the States architects are doing these things. And one feels what a pity it is that all this discovery was not promulgated

*Professor Goodyear's photographs were exhibited at Edinburgh.

in time for the Liverpool Cathedral Competition.

It is fair, however, to say that this is merely an architect's view, and not Mr. Goodyear's. Though his friends are giving New York the benefit of asymmetric planning, he himself holds to the pessimism born of past experience. He is doubtful whether even when we have specified refinements to contractors we shall succeed in getting the mediæval art into modern buildings. He is no reformer, indeed, of modern architecture, but merely concerned in the historical accuracy of research. This question of irregularity in ancient building has occupied him more or less for thirty years, and during the last ten he has visited, photographed, measured, and plumbed an extraordinary number of ancient churches—mostly in Italy, but at Constantinople also, and as near to us as Amiens and Wells. There is no question that by this hard work he has won his way to our complete acknowledgment of the facts so beautifully displayed in his exhibition at Edinburgh. If not exactly the discoverer of irregularities, he can claim to have been the first to have systematised their phenomena, and to have made it easy now for everybody else to perceive them. Mr. Goodyear's catalogue lays, perhaps, a little too much stress—quite pardonably under the circumstances—on the *hidden* grace of these refinements, which are not to be perceived by careless glances, and yield their secrets only to the initiated eye. As a matter of fact, some of these graceful obliquities have obtained the comment of observers, and the handbook of a cathedral usually points out that the Lady-chapel bends to one side as a symbol of the bent head of the Figure on the crucifix. It has also been remarked that mediæval walls are not always perfectly vertical. Indeed, the asymmetry of ancient church construction and general decoration has struck not only Ruskin, but the whole army of sketchers and measurers that have for fifty years been making drawings of churches and cathedrals. Still, Mr. Goodyear must be freely allowed the merit of giving these facts a classification and a nomenclature. His are the first steps to a scientific understanding of what his measurements and photographs triumphantly show to be accessory to so much of the ancient beauty of architecture.

It has to be added, however, that Mr. Goodyear wishes to carry us further than classification. Aim as he may at being only an accurate recorder of irregularities, he cannot help going behind the phenomena he tabulates and showing us, not the method only, but the meaning of it all. At page xiv of his classified catalogue I read as follows: "Aside from the accidental element, the builders of the Middle Ages frequently practised predetermined and carefully considered constructive arrangements which were intended to make their buildings more imposing, more attractive, and more interesting to the eye."

There can be no question that this deliberate intention is what his exhibition is designed to prove to us. He shows how such arrangements are specially observable in those cathedrals which may be taken as expressive of national aspirations, "on which therefore unusual care has been lavished," such as St. Mark's, the Duomo of Pisa, and the Notre Dame of Paris. Indeed, the title of "Architectural Refinements," applied to the exhibition, makes it quite clear that to Mr. Goodyear the irregularities found by him are not only not mistake nor accident, but are due to an intention of design—in fact are proofs of a distinct theory of beautiful creation in the art of building. The following pages will discuss this interesting point.

Mr. Goodyear's photographs supplement his nomenclature of bends, deflections, and such like. But I think the various classes of appearances may, perhaps, be better brought before the reader's eye if I take a hint from an informal summary given by him in the text of his catalogue, and arrange his phenomena thus:—

CLASS I.—Variations from regularity which have the appearance of:

- (a) Errors of measurement, such as the unequal spacing of piers in arcades or of window-widths in a series of bays.
- (b) Errors of squareness, as when transepts are not accurately at right angles to naves, or when arcade walls go canting away from a front.

CLASS II.—Irregularities which have the appearance of resulting from weak abutments or foundations, such as the spreading of arches, the curving of walls, the leaning of façades, etc.

CLASS III.—Irregularities which present themselves as seemingly due to difficulties of site, as when existing buildings cramp a rectangular setting out, or prevent the regular symmetries.

The above three classes of appearances are sufficiently common in all buildings, whether modern or ancient: the facts that they suggest have engaged the attention of all architects called upon to be surveyors. Three other classes are not so common to us.

CLASS IV.—In this I put deviations from regularity with which we have less experience in the modern building of churches, for the reason that our builders are not hampered by the necessities of a church service going on during the course of erection. Both in their buildings and additions the old builders had to provide that services should begin at the earliest date possible and not be interrupted. The choir of a new church was roofed in somehow as soon as it could be, and subsequent building had to be carried on outside its enclosure and at a disadvantage for exactly fitting the old work. So in mediæval buildings as they have come down to us there

can be seen frequently irregularities occasioned by the retention of walls, screens, temporary roofs, etc., to the last moment, until the new work outside of them could be with great rapidity made good on to the old.

CLASS V.—There is another set of variations from formality which have also somewhat fallen out of the custom of moderns for the reason that our building is so strictly governed by the use of the drawing-board. When there was less of this drawing, the habit of the mason and the convenience of his craft made walls to batter and arches to be slightly stilted, and all the building of churches to show a host of other small manipulations away from the exact rigidity of the ruled line. Mr. Goodyear's irregularities have the appearance of sometimes being just these, and nothing else.

CLASS VI.—Finally, there are variations which have the appearance of none of the above, and may be accepted as intentional, but on other grounds than workman's habit; as, for example, when the Italian garden arranges a sham perspective; or when, to save heaven's jealousy of a too great perfection, a flaw or irregularity is purposely introduced, as is common in Eastern art.

Now, the above six appearances can, I think, comprise all Mr. Goodyear's phenomena of refinement; but however much they may appear to us so to classify themselves, Mr. Goodyear is not satisfied. He claims that, if not in all the examples given in his collection of photographs, in the bulk of them the above appearances mean nothing. What is really exhibited is an art of irregularity, a *maxima ars* which is able *celare artem*, and this was the traditional secret of design permeating mediæval building, but lost at or about the time of the Renaissance.

It is recorded that when the followers of Xeno explained their theory that movement was impossible, Diogenes got out of his tub and refuted them by walking. But all the same the Cynic missed the point, which was not that men did not appear to walk, but that there was another way of taking the appearance of it. So it is no use for the cynical critic to point to appearances and say, "These are against you, Mr. Goodyear." A philosopher is entitled to discover an interpretation different from the obvious, and to say in any particular case that a refinement may have the appearance of an irregularity or a craft-habit, and yet be due to a definite system of æsthetic design.

Taking the classes of appearances in order, Mr. Goodyear's position with regard to his critics may be put before the reader.

CLASS I.—*Errors in Measurement, in Levelness, or in Squareness.*—Every architect knows that the equalities, parallelisms, and rectangulations, which his dividers, tee-squares, set squares, etc., draw on paper so easily, are not always exactly kept in the

executed building of modern work. It is a commonplace to specify that stairs, cupboards, etc., must be made from the completed carcase and not from the drawings themselves. Architects, therefore, are accustomed to think some small inaccuracies inevitable; but Mr. Goodyear points out that his refinements are on too large a scale to be taken as due to these trivial variations. This may be so, but it may also be fairly urged that the exact habit of extreme accuracy with which we draw and set out building is a modern *refinement* for which the ancients had neither the taste nor any easy recipe. So if, despite our care and our distinct ideals of straightness and squareness, a bungle of these niceties is very general, would not such a bungle be more conspicuous in ancient building? Should we not expect that much larger irregularity which the photographs show? Mr. Goodyear is ready for this argument. "I find," he says in effect, "a very great exactness of setting out in some mediæval buildings, therefore when inexactness is distinct it must have been premeditated." Indeed, he goes further and establishes for certain buildings a modulus of error, any excess on which must, he argues, be due to intention, and not to carelessness. But can a modulus be so determined? *Humanum est errare*—in a very irregular way. The mason sets out six spaces accurately, and celebrates the event, perhaps, too lavishly one night, and the next morning "has a head" and makes a terrible break in the average of accuracy. In my observation of mediæval work the greatest accuracy of setting out is to be found in the works which show in other ways the evidence of greatest superintendence and organization. In fact, the *regularity* is the *refinement* which has to be accounted for.

CLASS II.—*Settlements, etc.*—The second class of appearances presented in his photographs—i. e., those that seem to be the bulging of walls, the flattening of arches, and the spreading of abutments—give Mr. Goodyear a great deal to say. For example, as to the cloister walls at Bologna and Verona, which have an outward curve in plan—such as has an extraordinary resemblance to that produced by thrust, for they are on upper stories—he remarks that there were no vaults to produce such a thrust. But wood ceilings and roofs, as well as vaults, can push out walls in this fashion, and we are not told that there were neither floors nor roofs. This seems an omission in his argument. Again, as to the cathedral of Vicenza, where his photographs show piers that have all the appearance of having been pushed outwards, he remarks that the side walls of the chapels abut the transverse vault arches, and that therefore no outward thrust was possible. This, of course, is true if the said walls were built before the vaulting, but if between the chapels they were of a subsequent building by even six months later than

the vaults, the elimination of thrust from the question is not so clearly demonstrated. The catalogue does not clear up this particular point.

In fact, questions of thrust and settlement are always attended with difficulty in view of the many chances that produce them: there is more than one kind of movement to be reckoned with. Deformations of walls and arches often occur in the course of building while the work is green, or as the weight of the upper portion gets its bearings. A stop of the work for a few months before the ties and bonds of a roof are in place will cause walls to shift from the upright. I remember in a church with which I had to deal how long frosts stopped work for some months. On starting to build again we found "horizontal and vertical deflections" appearing in many walls which had been built quite parallel and plumb. No cracks or ruptures were visible, for the work was too green; the movements had been gradual, and the masonry had taken the new positions as if built in them. The arcade wall, in fact, presented just the appearance that Mr. Goodyear thinks so significant at Notre-Dame, for until the ties of a roof are on, a triforium hoisted on spindles of arcade piers is as top-heavy and likely to lean as a notice-board stuck on a post.

All architects are familiar, too, with the movements of arches and vaults in the course of construction if the centerings are weak, or if they are struck too soon. Often such settlements show no signs in the finished work; but Mr. Goodyear seems sure that movements of any kind in the churches he shows must produce manifest dislocations. Now mediæval mortar was probably very slow in setting, and after considerable deformations would cohere and set solidly. Also, during the extension of building any serious breaks would be likely to be made good and show no sign if afterwards faced with marble or mosaic. In the faces of such churches as St. Mark's, or the Duomo of Pisa, cased with marble upon a core of rubble, we would not be likely now to see the dislocations that took place in the original core of the walls. I cannot, however, find that Mr. Goodyear meets this point against him by telling us distinctly that the marble cases in these instances was part of the first construction. He certainly gives us the certificates of architects, but they are far from conclusive on this particular point.

A distinct class of settlement is that which takes place after the building has got its bearings from some new shifting of the thrust and weight on the masonry. When this has been sudden, as from earthquake or tempest, dislocation of the masonry is no doubt conspicuous. But when, as in the gradual giving way of foundations—from the withdrawal of water from a subsoil, for example—the shifting of strains is slow, the compositions of walls is wonderfully tolerant of them. A solid piece of

stone can sag or bend a good deal without cracking, as can be seen in the ordinary marble chimney-piece, where the lintel slab on end, originally cut true level, is often curved down an appreciable fraction of an inch in its bearing of 4 ft. or so: the molecules of the solid marble have rearranged themselves and no crack appears. A homogeneous block of masonry is certainly as elastic: a solid pillar of it like Eddystone Lighthouse leans considerably to a wind. Therefore when Mr. Goodyear says any movement in the vaults at Amiens or in walls at Notre-Dame has been impossible because no cracks show, we can accept his conclusion as final only if we accept his philosophy altogether.

CLASS III.—*Crooked Sites, etc.*—Mr. Goodyear, of course, acknowledges that a crooked street front may be the cause of a crooked setting out; but he does not often admit this chance as a possible explanation of what he shows. Of the other chances of a site which might limit formal symmetry he takes no account. Yet the alignment of ancient buildings often compels "asymmetry" in a new building. When, for example, in St. Mark's, the new cathedral made use not only of the wall of the old basilica but of the walls of two independent buildings outside, it would be a wonder were all these of the same alignment! But in this case perhaps Mr. Goodyear admits the point, for he says he lays no stress on the "deflections of plan in St. Mark's as indicating design." Still, St. Mark's is one of his picked examples of refinement which we are told should show every class of it. He therefore should have given us this point clearly.

There are a good number of other asymmetric plans on which Mr. Goodyear does lay stress as being designed. Unfortunately the exact history of the setting out of these churches does not come so immediately to the knowledge of everybody as is the case with St. Mark's. I am bound to confess myself ignorant as to most of the sites of the churches whose asymmetric plans are given us. It is therefore with the conceit of an ignoramus I suggest that one or two may have been, like St. Mark's, built crooked because they had to be.

CLASS IV.—*Misfittings of work where alteration or stoppage of building has occurred.*—What seem to be these are in many of Mr. Goodyear's exhibits; but he evidently rejects such appearances for this reason, that the Italian churches from which he draws his examples were built straight away from set designs, and were subject to no vicissitude of subsequent re-designing, but were completed and handed over as we see churches handed over by contractors to-day. He mentions how they were built in the eleventh, twelfth, or thirteenth century, as the case may be, and no doubt follows the best authorities. Yet the idea recurs that Italian churches may have had sometimes the same sort of history that is

familiar to us in the churches of North Europe; a history of constant unfinished, of perpetual change of design, of addition on all sides; so that the final result as we see it, is just a medley of rebuildings. Mr. Goodyear supposes us to know that the churches he shows were not of this sort; but one wishes he could give his ignorant readers occasionally the facts he knows so well himself.

I must confess myself unable to surrender, as to some of his examples, the ideas which the examination of English cathedrals suggests. There are in our most ancient churches two particular places where we expect to find irregularities, deflections, and breaks of design. The one is some few bays to the east of the crossing, the other some few bays to the west of it. Now, in our northern churches we know what, at such places, these appearances mean. They do not show any particular architectural refinement, but indicate the history of the building—a history which may be summarised as follows:

The first building of a great church for monks or canons was to provide for their daily services. The ritual of this required a sanctuary for the main altar, a presbytery for the movement of the clergy, and a choir space for their singing. The apse met the first requirement, the bays east of the crossing and the crossing itself gave the second, and the two or three bays west of the crossing gave the third. From apse to the screen which separated the choir from the nave was the working-part of the church. It was built as a whole and kept intact during all subsequent additions and rebuildings. Continuations of the fabric and additions to it went on outside, and, when complete, were joined on. One can see how this space asserts itself in our churches, so that their lengths exhibit settings-out in three divisions: (1) that of the original service-space as above defined; (2) the completion of this first designing of the church, begun at the west end, and often only at some considerable interval made one with the first; and (3) an addition of chapels begun outside on the east, and afterwards joined on to the quire by the removal of the original apse. Now, many of Mr. Goodyear's "refinements" are the deflections, bends, and curvatures which occur just at the spots where, if this setting-out in three sections had taken place, there would be likely to be misfits. Take the plan and internal view of Fiesole Cathedral for example.

Now, Mr. Goodyear has satisfied himself that such a history as I have sketched above cannot by any possibility be supposed for this cathedral; for had it been possible, he would have dealt with this possibility. So in the case of many others, Mr. Goodyear claims that he has visited and examined all these churches and knows their history, whereas his critics know them not. The retort is a telling

one, and until I have been to Fiesole, Troja, etc., and seen for myself, my conjectures lack substance.

CLASS V.—*Masoncraft Habits*.—The Edinburgh Exhibition showed how constant in mediæval buildings was the sloping backwards of piers and arch jambs, often with a slight curvature, and Mr. Goodyear claims this as an entasis based on the tradition of the classic column. He is able to show that in many of his instances the idea of the lean having occurred through thrust is not tenable, for it is to be seen at the internal angles where thrust would not be felt. The piers which have it have evidently been built to have this backward curve. Is this, then, an architectural refinement?

His critics point to the fact that these vertical leans of pillars, etc., follow the backward slope of the walls, so that the "entasis" of the pier is really part of the "batter" of the wall. It is curious that Mr. Goodyear, in all his investigation of leans, never once uses this common word "batter"—the fact of which is as common as the word in all stone-building. Until architects came and drew their walls upright, the masoncraft of all ages and styles had been building walls to batter. It does not, therefore, seem necessary to credit the builders of Amiens with some subtle constructive skill, nor am I much impressed at Mr. Goodyear's discovery that the "Suisse" there and the "Bedeau" knew all about it. I believe, too, that the slight stiling of arches, to which Mr. Goodyear devotes many illustrations, is just another constructive expedient of stonemasonry to allow of the centres being well wedged up without their bearing on the abacus of the capitals. The setting back of pillars on an upper storey behind the line below, as at St. Mark's, is also a mason's expedient to prevent the edges of his strings being flushed off. But such possibilities do not enter into Mr. Goodyear's argument for his refinements.

CLASS VI.—*Perspective Devices*.—These are clearly not of construction but of design. Mr. Goodyear has long maintained that at Poitiers the drawing-in of the arcades to the east and the lowering of arches were designed to produce the optical illusions of a long perspective. This fact is now generally admitted, and there are other examples of the same kind, such as Bernini's staircase to the Vatican. Italian and American gardens go in for scenic illusions of this sort: they can hardly be called refinements. Their obvious artificiality bespeaks, I think, rather a coarseness of building conception. But in a less theatrical way the optical illusion has been used in all architecture to enhance the dignity of the principal or sacred object. When a floor, for example, is raised towards the east end; when the arch over the sanctuary is allowed to come below the line so as to give a space for a painting or mosaic, we can recognise such ceremonial dignity as designed—but I do not hold with Mr. Goodyear

that the secret of it has been lost. Even before Mr. Goodyear enlightened his American friends we European architects had been making good use of such devices.

He will think this all a captious, carping way of presenting his discovery to the reader. I admit that the above very general observations are not conclusive as to any particular church in which of his own knowledge Mr. Goodyear may assert irregularities to exist such as cannot be retained in any of the above six classes. Though he throw a dozen to the wolves, he may still escape with an example which is of such undoubted designed irregularity that it may be rightly called a refinement. This position must be left unassailed. Being unable to go myself and see St. Mark's, Pisa and Fiesole, I bow to the authority of those who have seen.

It has occurred to me, however, that I have nearer at hand an irregularity which, if not recorded as yet by Mr. Goodyear, surely deserves his accurate investigation with level, tape and plumb-bob. In the cathedral of Chichester the lines of beauty so appreciated by him at Fiesole are clearly marked. To the observer standing at the west end the Purbeck strings that mark the storeys can be seen running continuously to the east, broken only at the crossing. They exhibit great sweeping curves which with tender subtlety incline inwards to the lantern arches as if they were planned to look like cupids' bows. The axial alignment is so varied that the square line at the crossing would cut the east wall some feet to the north of its middle point, and the west wall some feet to the south. And immediately that the eye is attuned to these curvatures it looks around and sees them everywhere. In all the vertical and horizontal lines of the old architecture appear delicate sinuosities. Nothing seems exactly rectangular, nothing quite plumb upright. The vaulting piers show for their height fully as much entasis as those of St. Quentin or Notre-Dame in Mr. Goodyear's photographs. Every refinement noted by him seems to have occupied the attention of the builders. The main arches of the nave have that perspective lowering towards the east which is so significant at Florence and Fiesole. There is that backward setting of piers in the upper storeys which is found on the façade of St. Mark's; the transept galleries lean away from the crossing as at Notre-Dame; the façade leans outward as at Pisa; and, rarest refinement of all, there is a bend in the plan of the west front.

Must, then, Chichester cathedral take its place with Pisa cathedral, with St. Mark's, Venice, and with Notre-Dame of Paris, as being exceptionally refined? Should it, as Mr. Goodyear says of the last, "by the multitude and complexity of its phenomena stand quite apart from other Northern cathedrals"? Before accepting the honor for Chi-

chester of being a special sampler of all the secrets of architectural refinement, I feel I ought to be as sure of its history as Mr. Goodyear is of that of Pisa and Notre-Dame. I have, therefore made a chart to indicate the positions on the ground plan of some fourteen distinct varieties of masoncraft that are to be found in its walls—the distinctions being such that they, in my opinion, represent the several works of fourteen separate generations of masons. Now what I notice is this: That the leans and the curvatures which he calls refinements seem always to require at least two of these generations of masons to perfect them. This seems the case alike with the vertical and the horizontal bends, and with the perspective illusion of the nave, the last being indicated as the achievement of two setters-out and of some one who compromised between. And as to the magnificent line of beauty shown in the horizontal curves of the strings it would seem that three generations of builders laid the groundwork of it, while to our own late days was it left and to Sir Gilbert Scott to put the finishing touches. In fact, the discovery I made is that all these refinements are not so much architectural as genealogical, for their schemes of beauty continued through many generations. Thus in 1091 Bishop Ralph laid the first arc of one great horizontal line of curvature; after some twenty years and a fire a second arc was achieved. Another eighty years elapsed, and after another fire see how Bishop Seffrid has ordered a third arc to be laid out; and then in the fulness of time has come the modern architect to complete its delicate perfection. What consummate patience and forethought! the looking forward to fires and settlements, and all the accidents of time, even to the final removal of the Arundel screen, so that the spire might fall and the lantern be rebuilt with that exact vertical elevation of piers which the tee-square designing gives! For it has been from all these happenings that there has issued the magical sweetness of the Chichester refinement.

Can one venture, then, on a theory of genealogical designing of mediæval cathedrals? Turning to Mr. Goodyear's pages, I feel that he must commit us to a distinct faith in transmigration, if not of souls, at least of a designing intelligence, elaborating beauty in cycles of building. In some hundreds of years, through all and by means of all the vicissitudes of settlement, re-designing, and casing with marble and mosaic, have been conceived and perfected the leans and curves of the consummate irregularity of St. Mark's. And almost equal thereto has been the hereditary refinement of the Notre-Dame façade. In 1208 the first masons laid out and set up its first delicate leans of eleven inches in the height of fifty feet; their successors of the next generation slowly curved the front back; and, finally, their grandchildren piously completed the ancestral design with

the comparatively easy work of building the towers upright.

Though Mr. Goodyear is not quite explicit on the point, he very cleverly suggests how such a refinement was kept in view. The first page of his catalogue darkly hints at it in a quotation from M. Enlart: "Le monopole de la corporation semble avoir été assuré surtout par la garde jalouse d'enseignements secrets." Certainly long chains of deliberate design can be postulated only on the assumption that the art of building in the Middle Ages lay in the hands of a secret corporation, with an occult traditionary method, an inviolate law of design that had force during hundreds of years, and, however long the building, to the end shaped and perfected its construction.

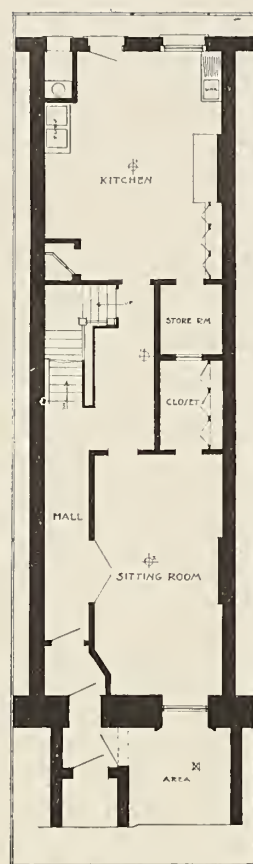
Here, then, we have the most distinct argument which I have yet come across for the existence in the Middle Ages of the Freemason Guild—those mysterious banded builders who did it all and said nothing. The whole contention as to "King Solomon and Hiram," as to the "Four Brethren," as to the "Comacine Guild," and those wandering "Lombards" who, without leaving a trace behind, built all the cathedrals—why, it all appears not only possible but probable under this new light! As certain Scotch architects, who have welcomed the Edinburgh Exhibition, say of it: "It completely revises the ordinary view of Gothic work." I conclude that Street was ill-advised, and Wyatt Papworth a shallow critic, in denying the Freemason architects. Nothing but the authority and initiation of a "mystery" could keep alive through generations and bring to perfection a scheme of design so recondite that, except on the supposition of an ineffable holiness attaching to it, it could not be perceived. Its secret was not in itself or its refinement, but in the success of its secrecy; in its masterly pretence that all the time its crooked ways were mis-measurement, accident, settlement, or some make-believe constructional necessity. Even Viollet le Duc, who was for years in charge of Notre-Dame, and knew every stone of it, never found out the secrets of these wonderful Freemasons. Let us yield to the whole fascination of Mr. Goodyear's discovery, and at one gulp take down "Comacines," "Freemasons," and "Refinements."

But I refuse to go with Mr. Goodyear on one point. He seems to reckon that the irregularities he exhibits, as well as being subtle and traditionary, are

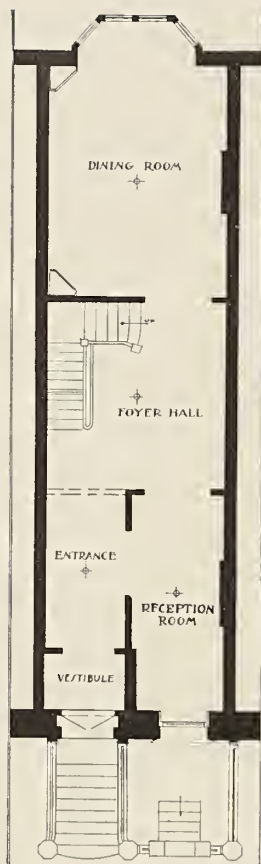
necessarily beautiful; making "building more imposing, more attractive, and more interesting to the eye"; as indeed "the necessary conditions of the creation of a work of art in architecture." Now, my objection is not that I do not think as Mr. Goodyear when I see the beauty of the mediæval cathedral, and note how haphazard and accident have woven a gauze of mystery over its shapeliness; the play of this seems inseparable from my idea of it. I had the honor, I remember, some many years ago, about the time when Mr. Goodyear began his investigations, of telling the Art Congress of Edinburgh how much the texture of ancient art made, in my sight, its beauty, which our modern building has missed. But though to my eyes this must always be so, all the same I feel that it is just association that has made roughness and irregularity seem the factors of beautiful building. We have had such a precious lot of "tee- and set-square" architecture, whereby walls have been built perfectly upright, string-courses set out dead level, and our buildings show just smoothness and mechanical perfection, and nothing else. To get into an old church where there is none of this perfection is felt to be a relief. And then through this veil of imperfection the simplicity and power of the old building appeal to us; we associate the texture with the art that lies underneath it. Our ideal of its beauty makes its skin and its life seem one. Yet on any conscious examination of the question I incline to the thought that exactness, smoothness and certainty are the real refinements which come into the making of a great work of architecture, as in everything else. And I believe that the mediæval builders just thought so too.

They had no æsthetic ambition in making walls knock-kneed and façades round-backed. They made the best of their conditions; and as practical men do now, they concealed the ugliness of accident, and still, in spite of it, and in disregard of it, strove after perfection. No more than now could the craftsman be persuaded to bungle his work. There are two classes of mind to whom the appeals of art are made—the practical and the mystic. Has not the connoisseurship of modern art in our days healthily stimulated this latter? We suffer art to lie in all sorts of recondite and subtle recipes; in all sorts of moral and secret emotions. Mr. Goodyear's gospel will be good tidings to the mystic and the idealist, but to the craftsman it is foolishness.

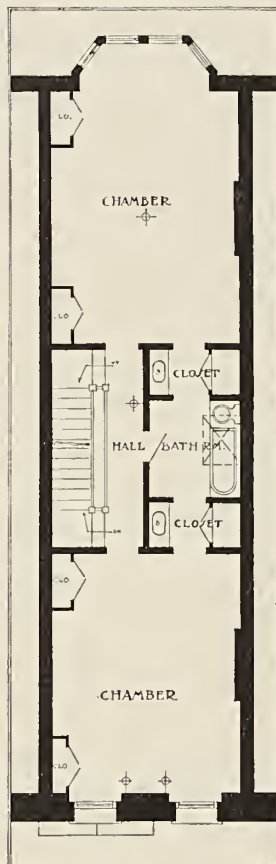
House and Garden



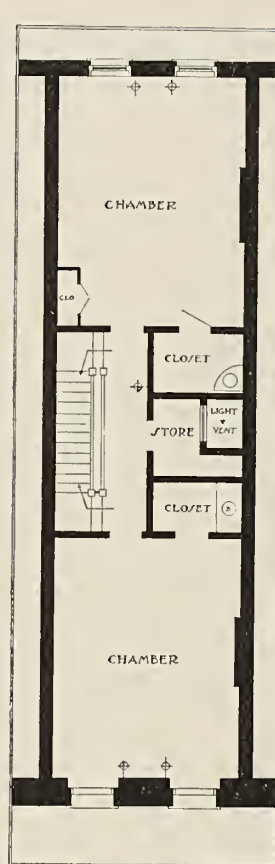
Basement



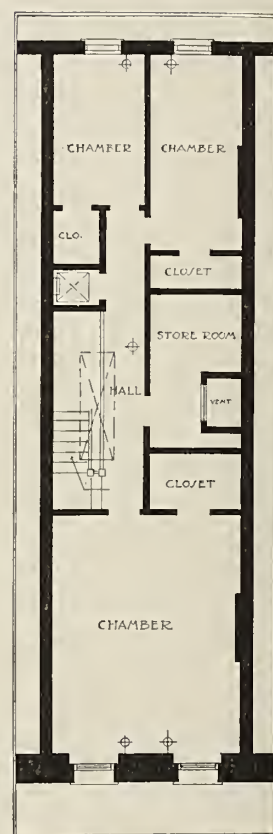
First Floor



Second Floor

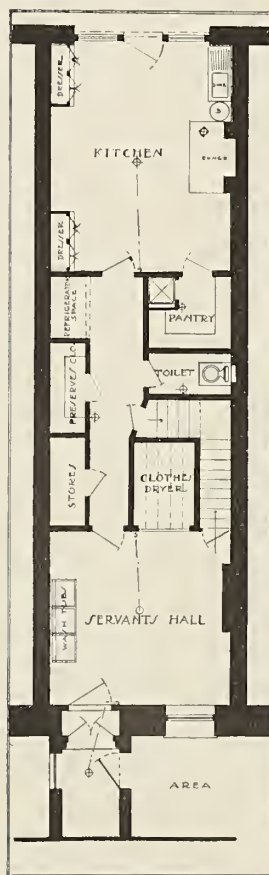


Third Floor

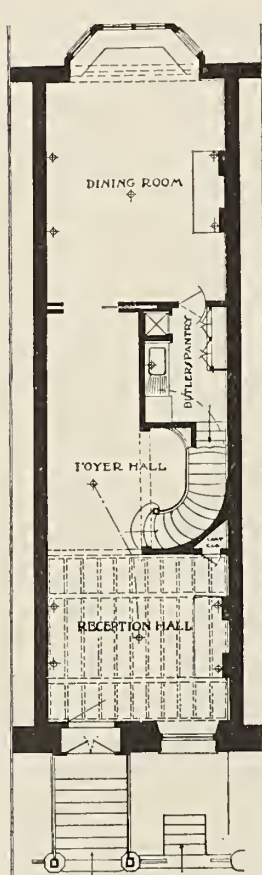


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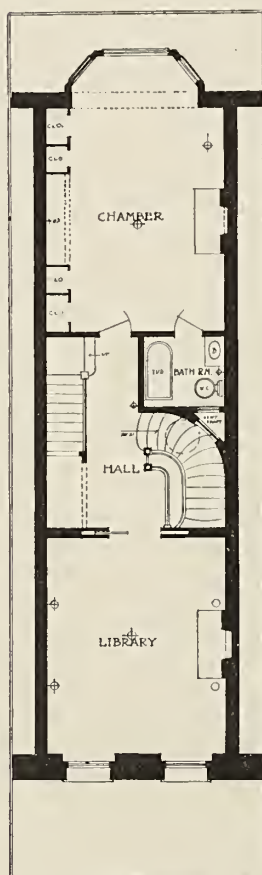
PLANS OF THE HOUSE BEFORE ALTERATION



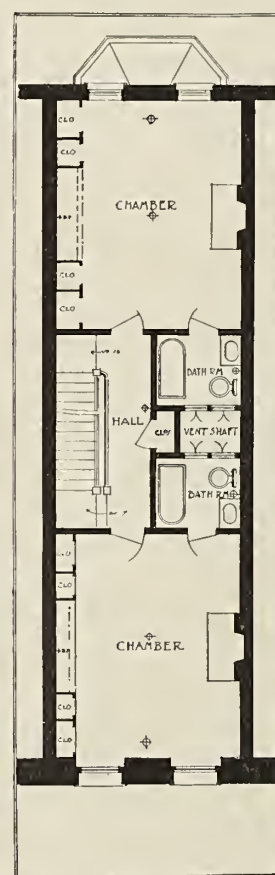
Basement



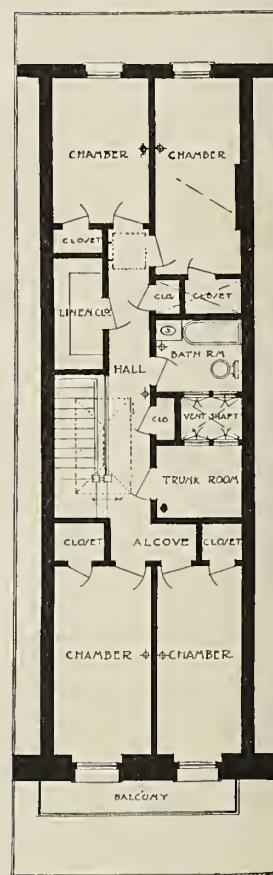
First Floor



Second Floor



Third Floor



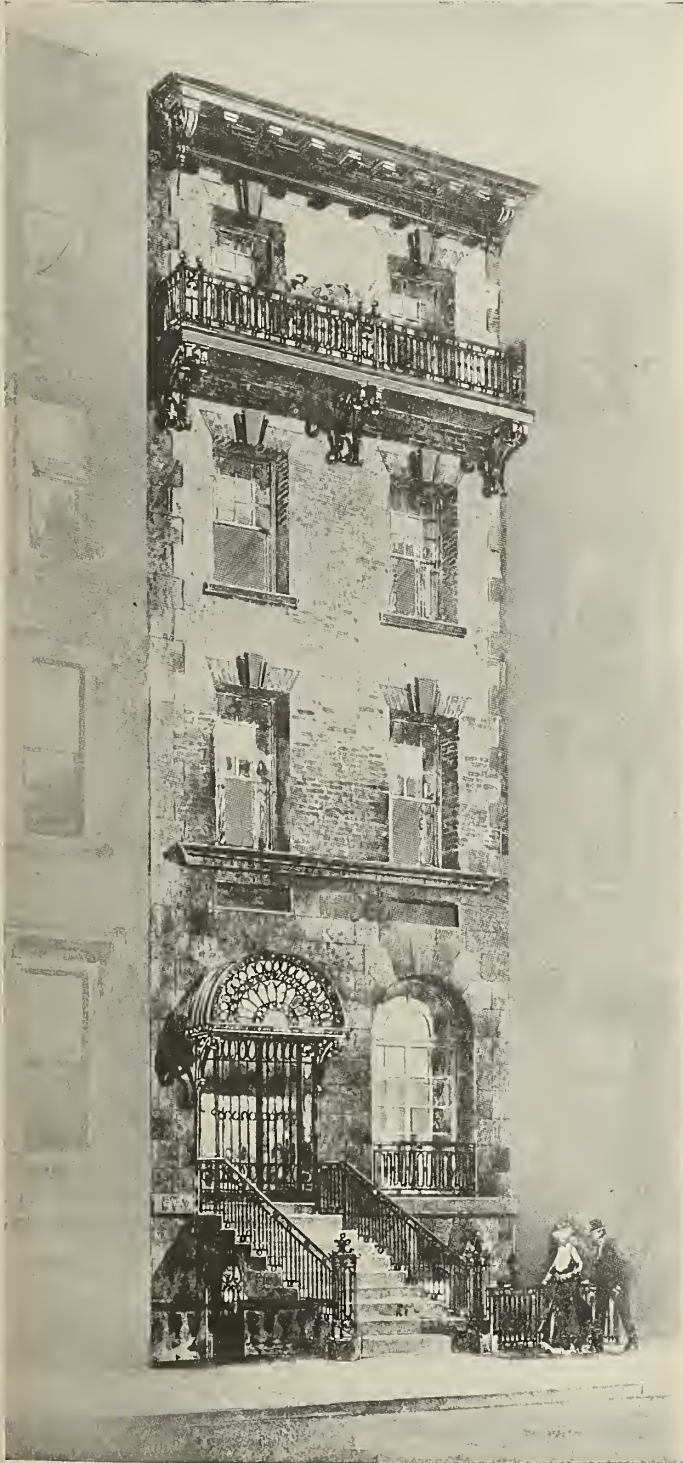
Fourth Floor

PLANS OF THE HOUSE AFTER ALTERATION

ALTERATIONS TO A CITY HOUSE

By J. M. HASKELL

THE accompanying illustrations, and the plans on the opposite page show what can be done to improve and modernize a city house of the old type whose arrangements have long since been condemned both by changes in domestic economy and by more enlightened sanitary considerations.

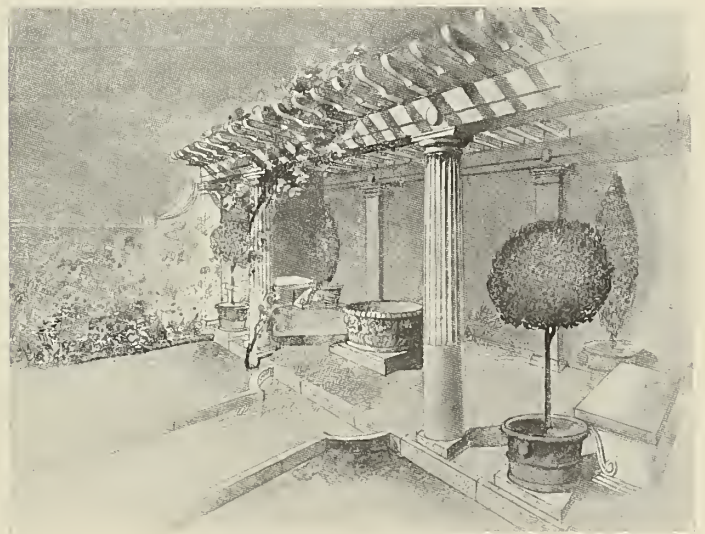


STREET FRONT AFTER ALTERATION

Usually such a house would be torn down and a house suited to current ideas erected in its place, but by careful manipulation the shell of the old house and much of the interior has been made to serve the new purpose. The chief advantages gained will be sufficiently evident on inspection. The important ones are the gain in apparent spaciousness of the interior on the first and second floors; the modernizing of the bedrooms and their accessories, the addition of the ample library or drawing-room on the second floor, and the more advantageous adjustment of the storage and closet space on all floors.

As to the exterior, the street façade has been wholly changed in expression from a commonplace flat brick front to an agreeable disposition of the windows and the entrance doorway, the fourth storey balcony and the vigorous cornice treatment, the whole harmonizing very well with somewhat similar changes in the surrounding houses due to the altered character of the neighborhood, which has become one of the desirable residential quarters of the Borough of Manhattan.

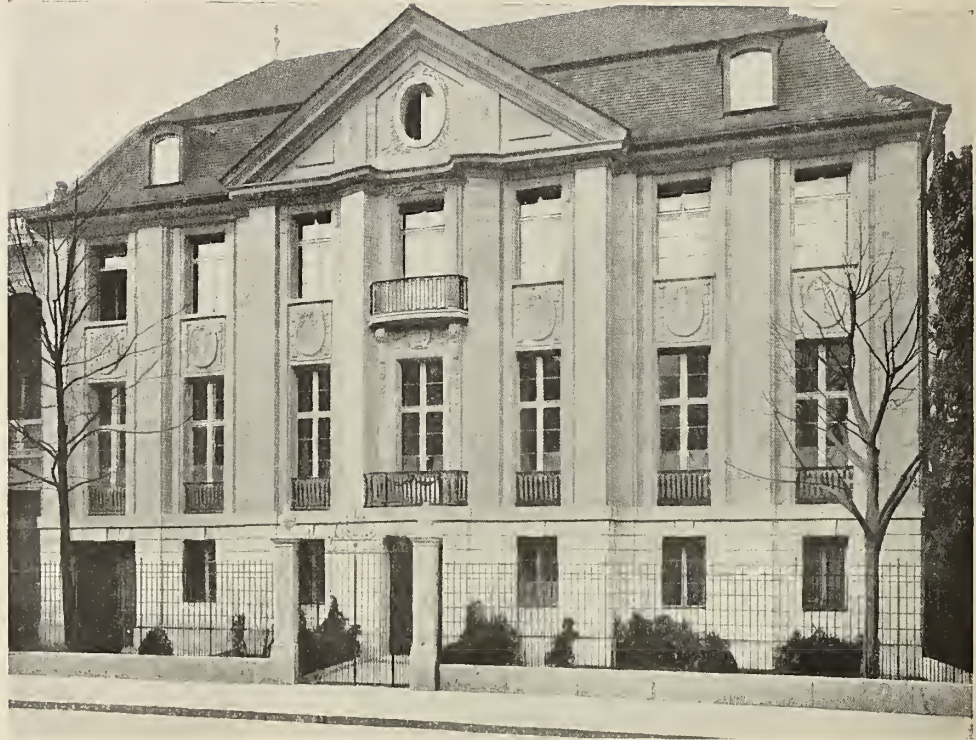
The back yard has also been wholly transformed into an agreeable garden, giving a pleasant outlook from the rear windows of the dining-room and the two principal chambers over. This house is Number 29 East 61st Street and the building operations have been carried out by Messrs. Hoggson Bros. under their new system of contracting. The sub-basement plan is not shown in our illustrations, but contains the heating apparatus, coal cellars, wine closet, storage etc. It is evidence of the labor and worry saving facilities afforded by such a method of operation.



A CORNER OF THE GARDEN

SOME REACTIONARY EXPERIMENTS IN ARCHITECTURE

THE desire on the part of the German Symbolists to work out their problems in architectural design with as little restraint from precedent as possible has led to the discarding of the orders, and so incidentally to the disuse of attached columns, or the pilaster treated in conventional fashion. When, then, a composition is in hand in which exigencies of plan and construction demand an emphasis of the vertical line, the symbolists have accepted the challenge and have not hesitated to suppress the horizontal line almost entirely. The results of some recent experiments in this direction are shown on this page. One cannot but feel in these examples the lack of a horizontal line and the buildings appear as if about to disintegrate. Whether these attempts serve as a warning or a stimulus will depend wholly on the point of view.



A PRIVATE HOUSE—BERLIN

At any rate reactionary experiments are always informing to the onlooker if fatal to the experimenter.



A SHOP—BERLIN



AN INSURANCE OFFICE—BERLIN

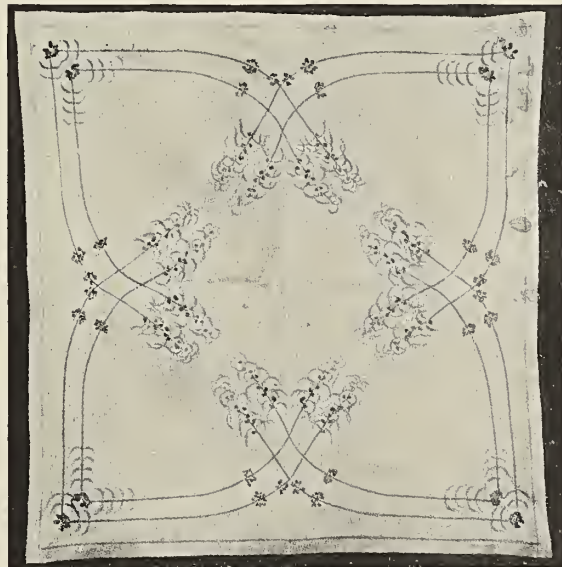
From "Architektonische Rundschau"

EXAMPLES OF DECORATIVE NEEDLEWORK

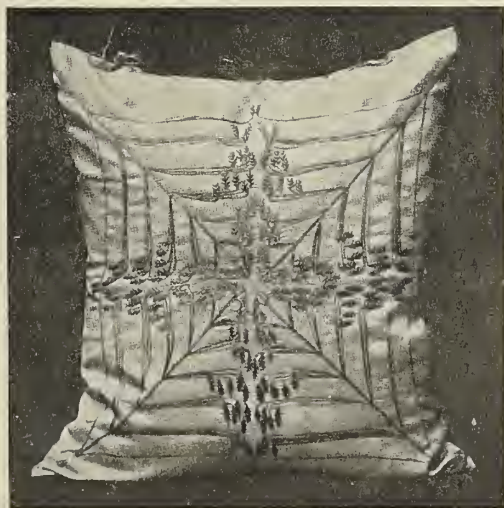
SHOWN AT THE MUNICH EXHIBITION OF 1905



A WHITE CENTREPIECE WITH PATTERN
WORKED IN BLUE AND GREEN SILKS



GRAY-GREEN AND GOLD EMBROIDERY ON
A WHITE CENTREPIECE



CUSHION IN WHITE SILK WITH GOLD
EMBROIDERED PATTERN



A GRAY SILK CUSHION WITH PARTI-
COLORED EMBROIDERY

GARDEN WORK IN APRIL

BY ERNEST HEMMING

APRIL is the busiest month of all the year in the garden. Hitherto the gardener had to set his own pace, which made the work not altogether interesting except to the enthusiast and professional. This month, however, Nature sets the pace, everything is bursting into life, one can almost fancy he hears the activity of the myriad cells of plant life and the bursting of the buds under the influence of the sun and warm rains. It behooves the gardener to hurry or the appointed time to sow will be missed. Work with Nature and you have a generous partner, work against her or not within her laws and you will have to carry the biggest load yourself.

This month the lawn gets its first mowing, before this is done a good rolling will be very beneficial. It will remove all the small inequalities and give that smooth surface so necessary to good appearance. It is useless to roll if the ground is at all dry, after a rain while the ground is moist is when it does the most good. After the first mowing trim all the edges along the roadways and around the flower beds, as nothing will detract more from the general appearance of the place than ragged and crooked edges to the turf.

The hardy perennial border should now begin to look interesting, each day some well known, long remembered, plant will burst into bloom, forget-me-nots, leopard's bane, bleeding hearts, *Iris pumila*, English primroses and cowslips, English daisies, daffodils, moss pinks, lily-of-the-valley, violets and such like are due to bloom this month. Even the tardy fall blooming plants will have made their appearance above ground, so that their positions will be clearly defined. Now is the time to add to the collection and decide on those spaces in which to plant gladioli, dahlias and annuals. Gladioli bulbs should be planted at intervals through the spring months so as to insure a succession. Plant the bulbs about three inches below the surface and mark the position with a neat stake. It will be there when needed to support them. This is very necessary with dahlias as they grow very quickly and soon get top heavy and liable to be broken by the wind, if not constantly tied up.

Dahlias should not be planted until all danger of frost is past as they are very susceptible to cold. The latter end of the month or in early May being quite time enough.

The proper time to sow annual flower seeds is best decided by the condition of the ground. When it crumbles easily and yet is not too dry. Most seeds are very fine and there is always a danger of covering them too deep. In most cases it is not necessary

to cover at all, rake the ground fine, sprinkle the seed and firm down with the back of the spade, then sprinkle with a fine spray. The following is a good selection of annuals to sow in positions where they may be allowed to flower without being transplanted. Shirley poppies, *Phlox Drummondii*, sweet alyssum, nasturtium, *Dianthus Chinensis*, *Eschscholtzia Calendula*, calliopsis, *Chrysanthemum coronarium*, portulacca, Salpiglossis, and annual larkspurs.

The shrubbery borders will soon be at their best as by far the great majority of them bloom in the spring. The golden bell, English dogwood, pussy willow and *Pyrus Japonica* are among the first to bloom but are soon followed by a host of others. If they received attention as advised in March little more will be necessary except to enjoy them, and a good thing too, for the vegetable garden requires every moment of time. If there are good strong roots of pie plant growing in the garden, knock the end out of barrels and put over them, packing stable manure around the outside, this will give long tender stalks two or three weeks sooner than that not similarly treated. Take off the covering of the strawberry beds if they have been too heavily mulched. The clusters of blossoms will very soon appear. After hoeing and cleaning up the beds, it is a good plan to spread the lawn grass cut by the machine around the strawberry plants, it keeps the ground cool in dry weather and the fruit from coming in contact with the earth and being splashed with heavy rains.

The vegetable garden should now be manured and dug or ploughed as soon as possible. Manure enters largely into gardening operations for this month, and should receive the consideration it deserves. Those having a good supply available are fortunate, for with judicious use the crops will be correspondingly large. Although there are quite a number of good artificial fertilizers on the market, the best all-round manure for the garden is that from the cow barns, next comes stable manure. They both add humus to the soil as well as plant foods. Both should be well rotted and incorporated with the soil.

There is a prevailing impression that leaf mould from the woods is rich, but it is the poorest kind of soil for vegetables and the majority of flowers and not to be compared with good loam from the open fields. Lime can be used to an advantage in most old gardens, but it has a tendency to impoverish the soil, its properties being to make plant foods that are already in the soil available rather than add anything to it.

The early crops that were planted last month should be hoed just as soon as the rows can be dis-

Civic Improvement Notes

tinguished. This to many may seem unnecessary, but the best time to kill weeds is just as they are germinating, as they will be by the million. "A stitch in time" is very applicable in this case. Don't wait until the weeds show themselves. The hoeing will also help to keep the ground in a nice loose condition so essential to growing crops.

Practically all garden crops may be planted this month. The first seeds to be sown are onions, lettuce, radish, cabbage, cauliflower, parsley, spinach, salsify, parsnips, carrots, peas and leeks. These may be followed towards the end of the month by French and Lima beans, tomatoes, corn,

peppers, cucumbers and melons, depending somewhat on the locality and the condition of the ground.

A corner of the garden should be reserved for the old-fashioned pot herbs. They are always welcome to the good housewife, parsley for garnishing, mint for mint sauce, tarragon for flavoring vinegar, thyme, sage, sweet marjoram, chives for seasoning, chamomile, horehound, wormwood, tansy, boneset for medicinal purposes. With the exception of parsley one or two roots of these will be found sufficient for the average family, and it will be more economical to purchase a plant of each than to attempt to raise them from seeds.

CIVIC IMPROVEMENT NOTES

RECENT ACTIVITY IN THE SOUTHERN STATES

MR. John Nolen, author of the interesting papers on the work of the late Frederick Law Olmsted, and a prominent member of the American Civic Association, has recently returned from an extended trip through the South. Mr. Nolen reports that one from the North or East cannot fail to be surprised and impressed at the healthy stir and improvement that represent the present prosperity in the Southern States.

"But more striking still and more significant," he says, "is the fact that the interest in higher things,—in art and in beauty,—does not seem to follow material well-being as is usually the case, but to be actually *coincident* with it. In this way the true and essential spirit of the Southern people finds its natural expression.

"It is not a new life; it is simply the reawakening of the better part of the old which has been ready to respond at a moment's notice. It is noticeable, moreover, that this keen interest in the larger and better things of life, especially in all forms of outdoor art, is in no sense confined to rich and well-to-do people; it extends to nearly all classes and is especially noteworthy in the agitation for public improvements.

"More than half my time on this recent visit was occupied with public or semi-public work; such, for example, as the Charlotte (N. C.) Park and Tree Commission, the Municipal League of Greenville (S. C.), the Thomasville (N. C.) Orphanage and Davidson College. The Park Commission of Charlotte has had plans made for important improvements to Vance Square and Cemetery Square near the centre of the city, and is about to undertake work on Independence Park in the suburbs, an unusually appropriate and attractive piece of property for park purposes. The

Municipal League of Greenville has taken definite steps looking toward the organization of a Park Commission in that city. The management of the Thomasville Orphanage has adopted a plan of improvements including a complete system of paths and drives. The President of Davidson College is taking definite action toward the location of new buildings that will soon be necessary from the rapid growth of this institution's enrollment.

"A visit to the mill village of the Monaghan Mills at Greenville, S. C., in company with its public spirited president, Mr. Thomas F. Parker, was full of interest. The mill is situated on high ground, from which a fine view of the Blue Ridge Mountains can be obtained. The property includes an area of over three hundred acres, and around the mill are clustered cottages of the operatives. Each family has a house of its own with a small plot for vegetables and flowers. Everything possible is done to awaken an interest in gardening; seeds are provided free of charge and flowering shrubs at a nominal cost. Many of the families have their cows and pigs and some of them horses. These are all kept in barns and free pastures are provided by the company. Mr. Parker is deeply interested in the comfort and convenience of the mill hands and in the good appearance of the grounds surrounding their homes. Improvements however, must be made slowly, as the total cost of small improvement is very great when multiplied by the number of houses on the company's grounds. A good school and kindergarten are provided for the children and they are kept open ten months in the year. There is also a church, a public hall, Y. M. C. A. and a Y. W. C. A. The rent of the mill cottage is low, the charge being seventy-five cents per room per month, which includes gardens, pastures, and so on."

THE conception of a museum of this character for Chicago was suggested by some significant groups of municipal exhibits shown at the St. Louis exposition. The German cities, fresh from the Dresden municipal exposition of the year before, brought to St. Louis some of their most beautiful and instructive exhibits relating to hygiene, housing, parks, recreation and public art. A few American cities, in response to a plan finely conceived but imperfectly executed, built houses in the so-called 'Model Street' and installed exhibits more or less completely illustrating their individual activities. New York, San Francisco, St. Paul and Minneapolis under the name of the 'Twin Cities,' Boston and Kansas City divided the honors in the American municipal section. An exhibit of the city of Paris was to be seen in the French pavilion, and creditable exhibits were shown by several minor French and English cities, Budapest and Buenos Ayres. So suggestive was the showing made that not a few were impressed with the latent possibilities in the Municipal Museum idea, but, like so many other good things, it was left to Miss Addams to make it "come true."

It is plain that the lines along which it is proposed to develop the Municipal Museum are ambitious ones and that the scheme is capable of almost indefinite expansion although, fortunately, most of the material may be presented in fairly compact form if necessary. With space and with money—not an enormous amount, but sufficient—the institution may be so ordered as to become a great educational factor in the community, supplementing in countless directions the work of the library and the school. The material employed is chiefly that of maps, models, charts, matter pictorial and statistical, etc. If allowed to reach its logical development the museum should become a dynamic university, teaching its lessons through the eye rather than through the ear and the printed page; selecting, valuing and placing the emphasis by the use of color and form so that it shall come to pass, in very truth, that he who runs may read.

The daily attendance since the opening of the museum has ranged from two hundred to two thousand people. The fact that the museum is centrally located, that admission is free, that the exhibits deal in a fresh and graphic fashion with the simplest and most vital concerns of life, that a point is made of the interpretation of the exhibits to the visitors—in short that the museum is *alive*—is no doubt responsible for its cordial reception. The museum serves as one of the means of communication between the central office of the American Civic Association and its Chicago branches and members.

PENNSYLVANIA has two Arbor Days, one in spring and the other in fall, but so far as our experience in Allentown goes, says "The Register," of that city, the law that created these days, is practically a dead-letter. It is true that the day is observed in spirit, but literary programs do not plant trees, neither do they preserve the forests.

What is needed here, as in many other places, is the creation of that sentiment which brings about practical results and some of the people of St. Louis have adopted an idea that would work well in Allentown.

In that city they have a Civic Improvement League and to stimulate public interest in the work the Tree Planting Committee of the organization has issued an announcement to the school children relative to the \$500 in prizes which are to be distributed June 1, 1906, for the largest number of contracts made by pupils with responsible property owners for the planting of trees on the streets of St. Louis.

With the announcement of the contest the league is sending out a pamphlet containing the joint recommendations of the Tree Planting Committee of the league and the Engelmann Botanical Club. The report of the committee gives the following six reasons for the planting of trees:

1. They increase the value of surrounding property.
2. They protect the pavement from the heat of the sun.
3. They add beauty and comfort to the city streets.
4. They cool the air in summer and radiate the warmth in winter.
5. They purify the air; the leaves inhale carbonic acid gas and exhale oxygen.
6. They aid in counteracting the unnatural conditions of city life.

The committee suggests these ten different species for the streets: Soft maple, hard maple, sycamore, American elm, white birch, Carolina poplar, Lombardy poplar, European cottonwood and the pin oak.

The committee urges the residents along any given street to meet and agree upon one kind of tree for that street, claiming that the beauty of the tree avenue depends much upon the planting of uniform species.

The report suggests that trees may be planted in the spring or fall, but preferably in the spring; that they should be planted about 25 feet apart, and that no tree should be planted which is not inclosed in a suitable guard.

HOUSE AND GARDEN CORRESPONDENCE

A MODIFIED ITALIAN GARDEN

Miss E. G. G. writes:

I have recently acquired a place in Southern California. There is an old rose garden which, while rioting in color and luxuriant growth, has at present no special meaning. I wish to bring out of this, something which will at least suggest a modified Italian garden. Is it possible to get garden seats, vases, fountains, etc. at prices at all possible to one of moderate means? If you will furnish me with the address of a dealer from whom these can be obtained I will appreciate it greatly.

Also suggest to me the best place for a fountain. There is a high wall on the south side of the garden, would you advise a wall fountain?

In regard to the decoration of your "Modified Italian Garden," I would suggest that against the south wall which you describe, you set one of the stone wall fountains, similar to the one in the illustration here shown. These are very beautiful and come in white marble, or grey stone, exquisitely carved. Near-by place a garden seat like the one shown in the picture.



BOWL FOR A WALL FOUNTAIN



GARDEN SEAT

It is not now so impossible for Americans of moderate means to obtain these delightful bits of garden furnishing, as formerly. There is at present a movement on foot by an Italian Art Company to furnish these at wonderfully low prices. They are all hand carved and landed in this country duty paid, and are not at all beyond the reach of the ordinary purse. With the roses you describe as growing soluxuriantly in this garden the effect will be most charming.

The garden seat stands three feet from the ground, and is six feet in length. The wall fountain is five feet high.

MARGARET GREENLEAF.

THE WELL BUILT HOUSE

Will you please inform me regarding common practice relating to an architect's superintendence. I am about to build a house costing about \$35,000. My architect urges the employment of a superintendent who is to report to him but be paid by me. I find in the Institute schedule of charges that superintendence is included in the architect's fee of five per cent. Is my architect justified in his demand and if I accede to it will I get an adequate return for the additional expenditure?

B. M. S.

The schedule of charges of the American Institute of Architects is not binding upon any architect, even though himself a member of the Institute. The schedule is published as representing a scale of professional charges which, in the opinion of members of the Institute, represents a reasonable minimum below which an architect cannot afford to offer his services. Both law (as represented by numerous court decisions) and custom restrict the "superintendence" of the architect to such visits as will enable him to satisfy himself that there has been a reasonable compliance with the terms of the contract. Certainty that there has been exact compliance with respect to all the minutiae of the specifications, even with the best intentions on the part of the builder, cannot be had without continuous and unremitting inspection by some skilled person representing the owner's interests. It is obvious that the architect cannot give this out of his own time, nor does his fee contemplate such an expense on his part. For a house costing the sum you mention the twelve or fifteen hundred dollars which you would have to pay for special superintendence would more than pay for itself by securing the quantities and qualities demanded by the specifications and drawings, added to which you would have the satisfaction of knowing that you had secured them and you would also have (what is quite as important) an exact check on all extras

House and Garden

ordered, or counter claims on the part of the contractor. It is usual for the superintendent to make a weekly report in detail—a log, in fact—of all that has happened during the preceding six working days, so that any doubtful questions which may arise incident to the closing of the transaction are specifically covered by notes made at the time.

C. E.

FLOWER HOLDERS

How are the flowers held in place in the baskets or other large receptacles shown in Mr. Egan's article in *House and Garden* for March.

C. R. B.

Wire frames for open mouthed vases, made by any tinner, are useful when handling heavy topped flowers, as each may be separated and held in place. The mesh should be an inch wide, the lower one half an inch from the bottom, the upper one same distance from the top of the vase. Copper or galvanized wire may be used. For large bouquets, fancy waste baskets or the ordinary oval shaped baskets may be used. A tin lining is first made, and fitted into it is placed a wire frame similar in construction to those used in vases, only it is made to conform to the outlines of the basket. Where the waste basket is used, if it is deep and narrow mouthed, the wire frame is not needed but a tin cylinder is necessary.

W. C. E.

RECEPTION ROOM AND BATH ROOMS

I have been awaiting with much interest the appearance of the promised papers on House Planning announced for publication in *House and Garden* sometime ago and, pending their appearance, would like to ask for advice regarding the following points. (1) What are the relative advantages and disadvantages of the little "two by four" reception-room sometimes met with in modern houses? (2) How far is it advisable to provide a separate bath room for each bedroom, having regard for cost, convenience, and "sewer gas?" A reply at your earliest convenience will greatly oblige, as I am considering the plans of a new house for myself.

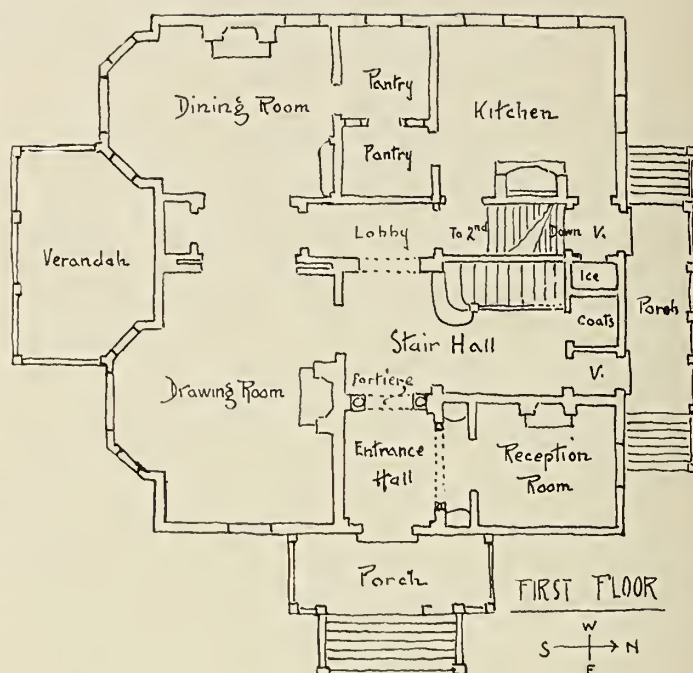
J. J. S.

The papers on house planning to which our correspondent refers have been in preparation for sometime, but their publication has been delayed by various causes which have made the collecting of the examples taken from actual practice needed to adequately illustrate them a much slower process than was imagined when the papers were undertaken. While it is not yet possible to fix a date for their appearance, it is expected that they will begin to appear in one of our succeeding issues.

As to the definite cases cited by our correspondent, the following answers may be made.

(1) Objection to the small "reception-room," properly so called, which is found in many recent plans arises from two causes. First, because its purpose is not understood and it is accordingly misused even when correctly placed upon the plan, and, second, because from a misunderstanding of its intended or proper use, it is improperly placed upon the plan, improperly that is with respect to its relation to other rooms.

It must not be forgotten that a plan, like other complex organisms, has been put together to serve certain ends, and that each of its component parts has, likewise, a specific function to perform. If the intentions of the designer are misunderstood, or if he has presumed too far upon the delicacy of perception of his client, the plan, both as a whole and in detail, will be misused, and the users will be accordingly inconvenienced. In this case the plan is not



PLAN SHOWING THE CORRECT POSITION FOR THE RECEPTION ROOM

a good one because it does not accord with the domestic habits of its occupiers. The writer had occasion not long ago to visit an old house of the colonial type which was in the last stages of degradation from long abandonment and misuse and was about to be torn down to make way for a new street through the old estate. A family of rag pickers had squatted in the house, and the drawing room, a mere shadow of its splendid past served as their living-room, kitchen and dining-room, all in one, while the library served as the common family bedroom. There was of course no sink in the drawing-room, nor were there toilet facilities in the library, and though these were provided elsewhere in the house, the present occupiers preferred to live more compactly than the original owners, and apparently did not mind the infrequent journeys to other parts of the house for water or waste.

Here we have an extreme case where a plan, originally excellent and agreeable, has become a bad plan, because ill suited to the needs and tastes of the users. So it is with the room in question.

The accompanying sketch shows the right position of the reception-room and its correct relation to the principal entrance door, the stair hall, and the drawing-room. The reception-room is intended to serve, as its name indicates, as a room of first reception for all persons, other than members of the family or their most intimate friends, who may pass inside the front door. Here are dealt with the majority of such persons who thus penetrate no further into the house, and so is preserved the privacy of the family life, which is the most essential and fundamental condition of a successful home. By means of such an arrangement, the family comes and goes freely regardless of unsympathetic or unwelcome callers.

As to your second query, it is to be said that the ideal condition is one in which every member of the family has his or her own private bath and toilet room. Every consideration of self respect demands such an arrangement and in American houses of the best class this provision is regarded as absolutely essential. No fear of "sewer gas," that exploded bugaboo, need be taken into consideration as the most elemental precautions are sufficient to guard against any danger in that direction. Cost is the controlling element.

C. E.



House & Garden

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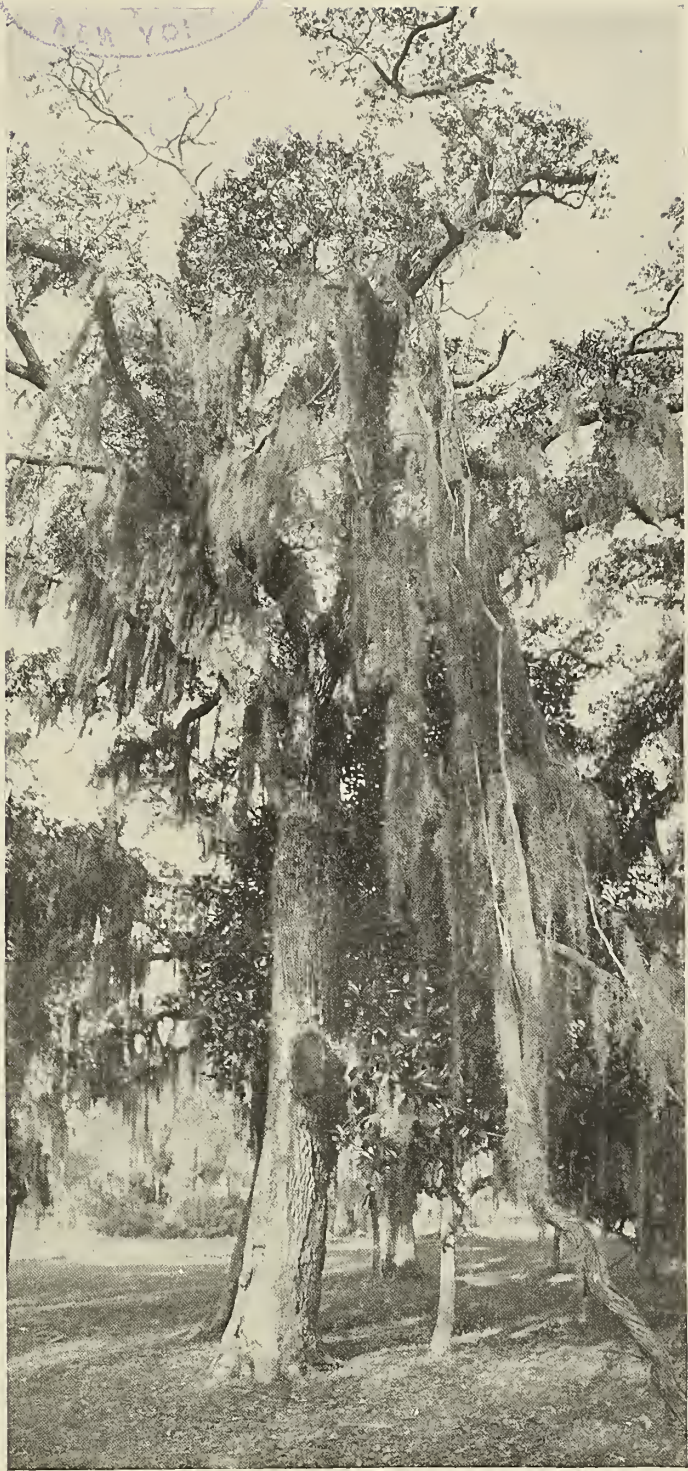
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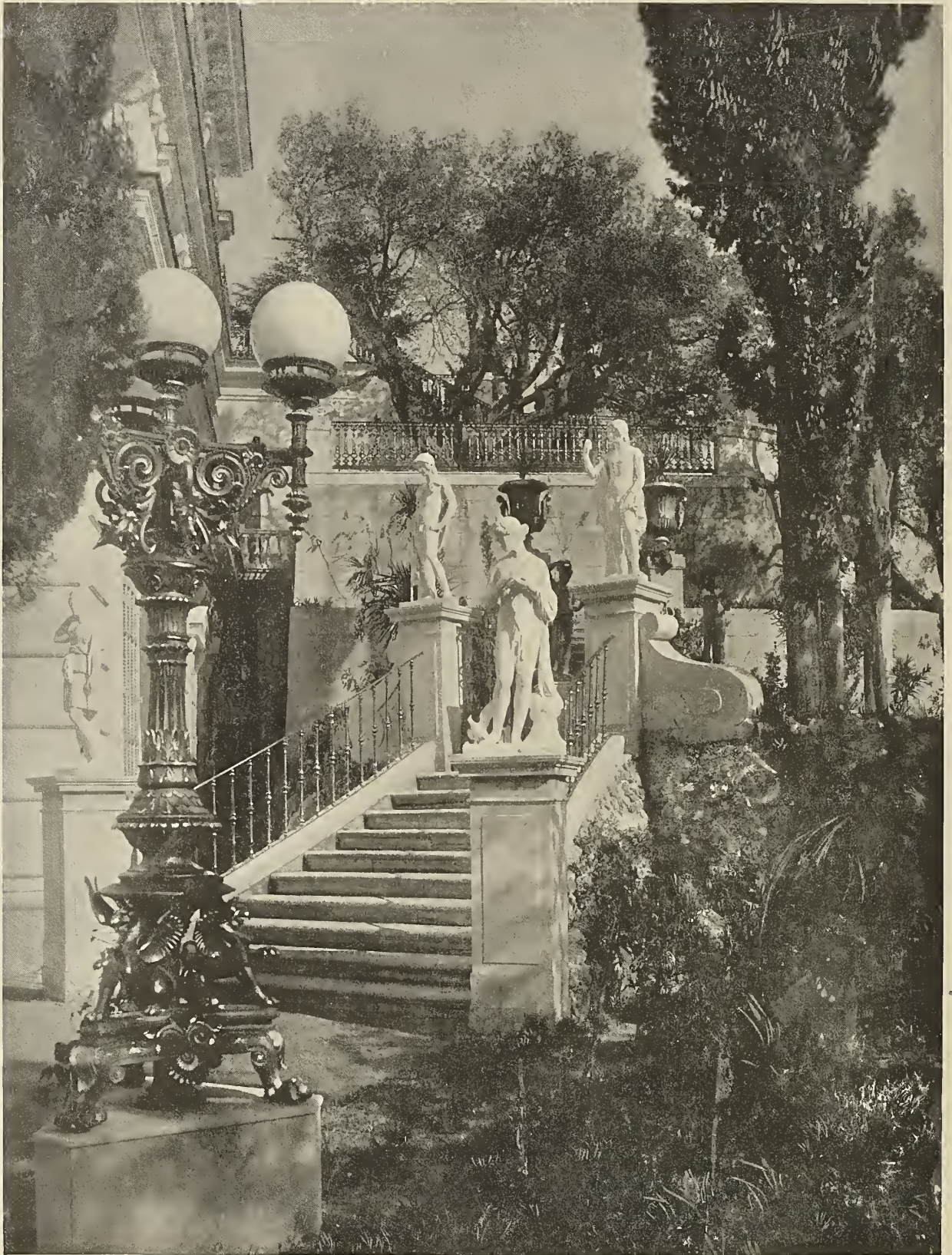
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TERRACE AND STEPS IN THE GARDENS OF THE LATE EMPRESS OF AUSTRIA

House and Garden

VOL. IX

MAY, 1906

No. 5

THE ARTS AND CRAFTS EXHIBITION LONDON, 1906

BY MABEL COX

THE Arts and Crafts Exhibition Society opened its eighth exhibition on January the 15th at the Grafton Galleries under the distinguished Presidency of Mr. Walter Crane. At the private view, which was crowded and where most of the promoters and upholders of the movement were seen, two things, plainly, were universally felt. One was the strangeness of the new quarters, for owing to its long association with the New Gallery, everybody has come to think of it as the home of the "Arts and Crafts;" the other was the gap that is still felt to

exist, and it is safe to say always will be felt to exist by all who shared the joys and sorrows of the society in its early days—the gap caused by the loss of the beloved personality of its former leader—William Morris.

In reviewing the work of this Society (now in its eighteenth year) which has been one of the important powers in the development of that wave of feeling for, that reaction towards, handicraft and a general simplification of conditions of life by which we hope to signify a renaissance of art, it is necessary



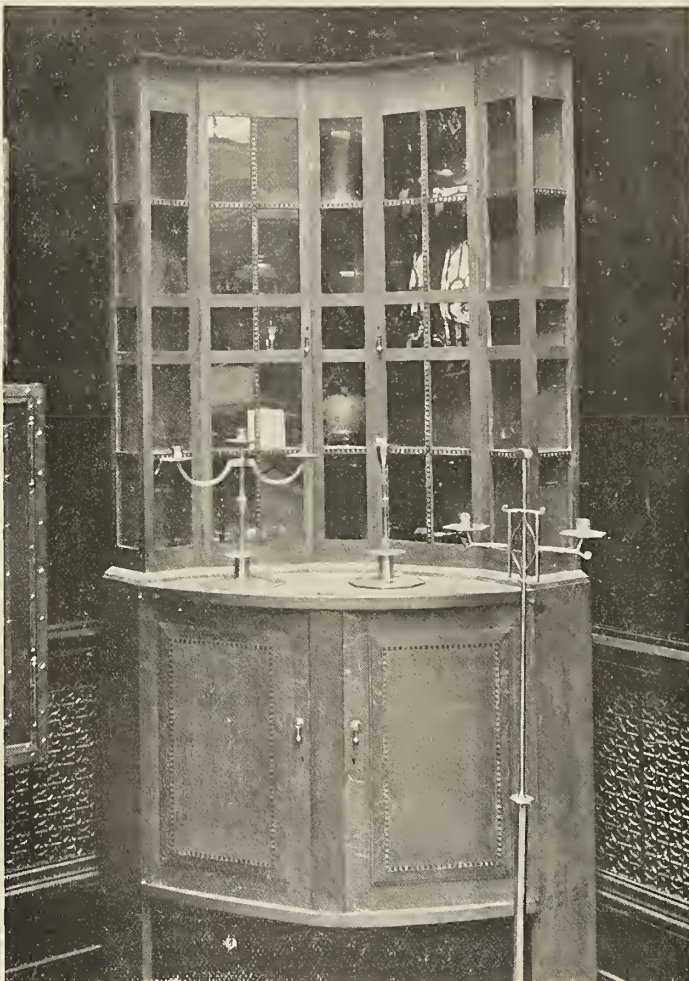
MEMORIAL TABLET TO COMMEMORATE A VISIT FROM HERBERT SPENCER. BY JOHN WILLIAMS AND B. J. COLSON



GROUP OF POTTERY BY THE PILKINGTON TILE & POTTERY CO.
The one with relief figures, "The Four Seasons," by Mr. Walter Crane

to beware of sentimentality, and to try and find practical solutions of national problems. It is sometimes suggested that if we could go back to what now appear the ideal conditions of centuries ago, before the invention of machinery, we should be healthier and happier. It is undeniable that machinery is responsible for the awful

condition of industrial art, which has not yet probably reached its culmination; but it is the abuse of its power in the race for wealth that has brought us to such a pass. The power of machinery enables us to indulge in the use of improper materials, in a redundancy of ornament and above all, in the reproduction in cheap form of luxuries and works of art, till our senses are dulled and national taste is vitiated almost beyond recovery. The problem is how to revive our sense of honest handicraft, and pick up the threads of tradition for the forming of a natural taste, not that of the cultivated classes only, but a democratic and universal one. It is doubtful if we shall advance



CHINA CABINET IN ENGLISH OAK. WROUGHT IRON CANDLESTICKS AND STANDARD, BY MR. ERNEST W. GIMSON



WALNUT SIDEBORD, DESIGNED BY MISS JULIA HILLIAM, WROUGHT IRON CANDLESTICKS BY "THE ARTIFICERS' GUILD"

The Arts and Crafts Exhibition, London, 1906

the cause of a national art by laying continual stress on this war of machinery and handicraft; we should try instead to relegate to each its own functions instead of assuming all dealings with machinery to be sordid and undignified, and all practice of handicraft to be enlightened and romantic.

What is romance? Grimm's story of the poor soldier who became the possessor of a purse that never lacked a gold piece is romantic, but suppose he had had instead a machine that never failed to produce something that could be sold for a gold piece, is his situation no longer romantic? The use of machinery in itself is not pitiful



CASE OF JEWELRY, BY THE SIR JOHN CASS INSTITUTE, WITH VERY GOOD CLOISONNE ENAMEL

.. "And all unseen
Romance brought up the 9.15."

The present position of sweated workmen tied to endless machinery is, in all conscience, pitiful enough; but so also are the stories of the sweated hand-loom weavers, crippled by doubling over the breast beam from early to late in dark hovels. Imagine among such the possessor of the first power loom, doing his work in a fraction of the same time and setting out a free man to hoe his peas, to work a silver girdle for his sweetheart or to carve a cradle for his baby! Where is the romance here? Is there nothing pitiful in the condition of many a craftsman kept going by the modern subsidized movements? Such workmen are often ignorant fisherfolk tinkering ignorantly at a piece of sheet copper under the ignorant direction of the vicar's daughter; the design, the tools, the materials thrust into his hand wherewith to produce something for which he has neither comprehension nor sympathy, nor even such a knowledge of its value as enables him to prevent its being sold sometimes hugely over and sometimes equally under a decent price. Of the existence of this sort of thing ample proof is found at various exhibitions of subsidized industries all over the country. It keeps the "art" worker out of the public house and the vicar's daughter out of other mischief, and if he gets a half-crown, and she some *éclat*, for the work of their winter's evenings, that is all to the good; but they do not form a convincing picture of the dignity and en-

lightenment accruing to the practice of handicraft.

A further and very difficult question for the sentimentalist of labor is where the use of machinery is to begin or end even in artistic handicraft. Would he, for instance, recommend the sawing by hand of the planks of the furniture he is making?

We are still in a coil, artistic and industrial, but the sociological question is far too big for sentimental solution, such as throwing all machinery into the sea, starting fresh as free and independent craftsmen; we have got to evolve from it, and it is the hope of evolving with the possession of a living democratic, traditional art, that makes the success or failure of such movements as the Arts and Crafts Society of vital importance to us. That such an art will be manifested in the practice of handicraft is certain. Since nature never makes two men exactly alike, no two men will ever make two articles exactly alike, and here is our justification for the appreciation of handicraft, and for the everlasting interest it arouses. No craftsman can fail to express his individuality in his work, and here is the dignity he gains.

Mr. H. G. Wells, one of the few social prophets who do not ignore the need of expression of the artistic temperament in their Utopias, sets forth in his "Anticipations" that the art of a nation is shown not by the condition of its "Fine Arts" but by the way in which it makes things of everyday use. The

House and Garden

Japanese are a striking example of the truth of this idea, but so far are we from a similar state, that the first quality that attracts notice in the Japanese craftsman is his facility for decoration. A kimono, for instance, may bear a trail of exquisite needlework, but that is not nearly so attractive artistically as the marvellous skill with which its lining is sewn into it, in such a manner that while holding perfectly firm, it can be ripped out in a few moments for washing; and it is doubtful whether the delicate cleanliness which dictates this ingenuity is not a greater proof of innate artistic feeling than the unerring skill shown in the decoration. This feeling, which is manifested in hundreds of ways, is democratic; it is possessed by the meanest workers and pervades their humblest productions.

Unfortunately such feeling is becoming less and less apparent among Western workmen, peasant art and handicraft is almost dead, and there is no demo-

cratic art. The taste of the working classes is just as evil as that of the middle classes, which is putting the case stronger. It is very rare to find a man who cares to practice even a craft by which he earns his living, for the benefit of his own home. Nor are there any signs that the Arts and Crafts Society has succeeded in arresting this array of democratic art. The present exhibition is almost entirely dilettante in character; it is an exhibition of beautiful, luxurious and costly things, for luxurious and wealthy people. There is practically nothing made for, or by, the working classes. There is work carried out by working men in plenty, all kinds of it come, for instance, from the Guild of Handicrafts, but the god behind the machine is Mr. Charles R. Ashbee, and it is safe to say that without the years he has devoted to helping, teaching and inspiring working men, few of those exhibits would be there. The influence, valuable though it be, comes from above not below.

Another failure, or another aspect of the same failure, is the tendency to over-decoration, a sure sign of the prevalence of dilettantism. One has an uncomfortable feeling that people have been learning to leave metal, or wood, or leather and have then had to cast about for something to put it on. That they have, in short, got hold of the wrong end of the stick, and that it is not so much in the making of things as in their decoration that handicraft has found its outlet. However, when cavilling at generalities is done, it is pleasant to find that there is so much to praise that it is impossible to give even the smallest mite of honor everywhere that honor is due. To begin with, the new quarters of the Society have proved a most successful device; and the immense difficulties of hanging and placing have been overcome with great success, both as regards individual exhibits and the general aspect of the rooms. The large gallery is decorated all round by the frieze painted by Mr. Walter Crane for the British Section at the St. Louis Exhibition and lent for its present purpose.



DRESSER DESIGNED BY MR. W. R. LETHABY, PAINTED BY MR. ALFRED H. POWELL.
THE POTTERY, BY MR. LETHABY, EXECUTED BY JOSIAH WEDGWOOD & SONS

The Arts and Crafts Exhibition, London, 1906

There is much less extreme work this time than in former exhibitions especially among furniture. With the exception of one or two chairs there is nothing that is even a little too clever. There is one form of decoration on one or two of the best pieces, an interrupted chamfering which gives an unpleasant suggestion of "rustic work," but on the whole the furniture is characterized by a deliberate reticence which is really artistic, and does not emanate from lack of idea, or lack of expenditure of workmanship. The latter is there, but it is not shown in carving and inlay but in exquisite paneling and moulding. Mr. Penty is responsible for some very simple and beautiful pieces. Mr. A. Romney Green shows excellent workmanship but tends a little toward over-elaboration in design. Heal & Son have several especially attractive pieces of plain well-made furniture, after the best English traditions of the 18th century.

Among metal work, forged iron is noteworthy for its conspicuous beauty. Mr. Ernest W. Gimson and the Artificers' Guild, some of whose work we are enabled to illustrate, need no further praise. Two copper



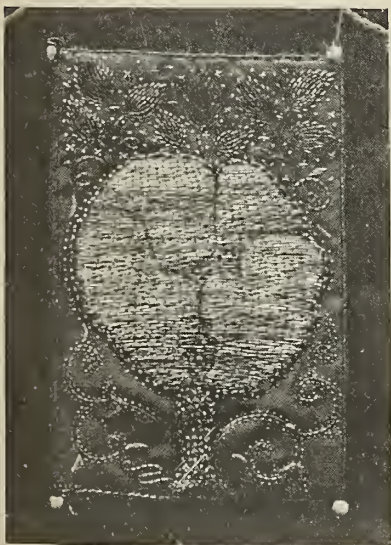
MAHOGANY CHAIR AND OAK ARM CHAIR BY THE GUILD OF HANDICRAFT
DESIGNED BY MR. CHARLES R. ASHBEE

vases designed by Miss Anne G. Stubbs and made by Jesson Birkett & Co., entirely without decoration, are very good indeed.

The jewelry is most disappointing, with the exception of that sent by various technical schools. It is generally over-elaborate in detail, with a mixture of color that together give a meretricious effect; some again is strained in idea

and inappropriate, in fact it is a section in which rank bad taste prevails. There is one case of simple and appropriate work which, though not highly distinguished, has considerable charm, by the Misses M. Wilcock and L. D. Carro. There is a silver buckle with labradorite and serpentine by Miss Margaret J. Awdry that is also among the pieces with real beauty. There is a great deal of enamel which runs largely to pictorial lines, landscapes with tree trunks over a setting sun are a prevalent form of the disease, which has broken out badly on small boxes. Mrs. Geraldine Carr has some simpler enamels mounted in silver for saltcellars which are very charming. One of the most satisfactory pieces of metal work is a cast iron fire-grate by Longden & Co., designed by Mr. C. F. A. Voysey. Although Mr. Voysey has before now proved what wonders may be attained by suitable designs in iron-casting, this exhibit strikes one as quite unexpectedly beautiful. The lines are severe and the only ornament consists of two little squares of relief casting. This is, unfortunately, the only exhibit bearing Mr. Voysey's name.

A particularly attractive class of metal work is that for table use; hand-wrought silver utensils and



CARD CASE WORKED IN SILVER
THREAD ("Silver Rose") BY
MISS MAY MORRIS



TAPESTRY PANEL DESIGNED BY MISS SYMONDS AND MRS.
H. ACLAND HOOD, WORKED BY MRS. H. ACLAND HOOD

dishes of all descriptions, in simple forms and with just enough of finish to leave the fine handworking apparent, come, principally, from the Guild of Handicraft, and also from Mr. J. Paul Cooper and Mr. E. E. Harris.

The class of woven fabrics is very small. Mr. Edmund Hunter shows one or two elaborate design-weavings of beautiful workmanship but rather unattractive color. The most charming piece of weaving in the exhibition is done by Miss Charlotte Brown; it is a pair of linen curtains with only a slight heddle pattern in the lower part; the coloring is quite exquisite, a greyish purple which shades imperceptibly into greenish grey, the handwork being conspicuous in this dainty manipulation of color.

Needlework, naturally, forms a very large class but there are few ambitious pieces. Miss Una Taylor has nothing of equal importance with her tapestry after the Burne-Jones design of a few years ago; her principal exhibit is a pictorial panel entitled *Joli Cœur de Rose* designed by Mr. W. Graham Robertson; it is very beautiful work and the design

has great charm, but it is rather wanting in repose. The crimson-clad figure stands out rather startlingly from a nearly white background. Miss Phoebe McLeish has a dress yoke of delicate, careful and appropriate work which deserves great praise and Miss Peard has a very good sampler of elaborate gold and silver work. There are one or two needlework pictures, the best a small snowscape by Miss Kate Button, while one from a beautiful design by Mr. Walter Crane, by Miss Violet Turner, has suffered a little from the colors employed and will doubtless improve with time.

One of the finest classes of the whole exhibition is that of book decoration and handwriting. There is excellent work in the best traditions of earlier centuries from Mr. Allan F. Vigers, Miss Florence Kingsford, Miss Jessie Bayes and others, while Mr. Graily Hewitt is responsible for some exquisite penmanship and gilding.

There are also great beauties in hand binding from the Doves Bindery, and some which have been done

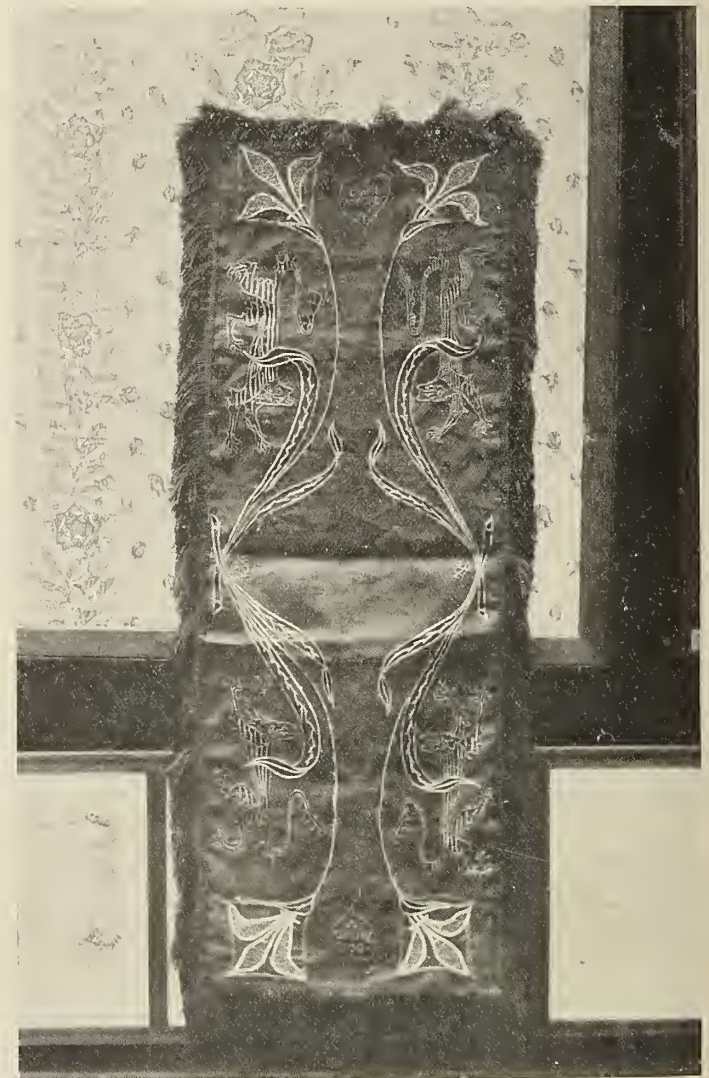
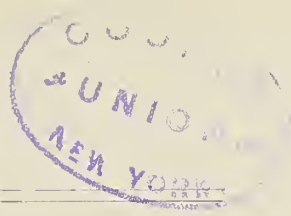


TABLE CENTRE DESIGNED BY MR. WALTER CRANE
WORKED BY MRS. WALTER CRANE

The Arts and Crafts Exhibition, London, 1906



under the inspiration of Mr. Douglas Cockerell of a peculiarly restrained beauty.

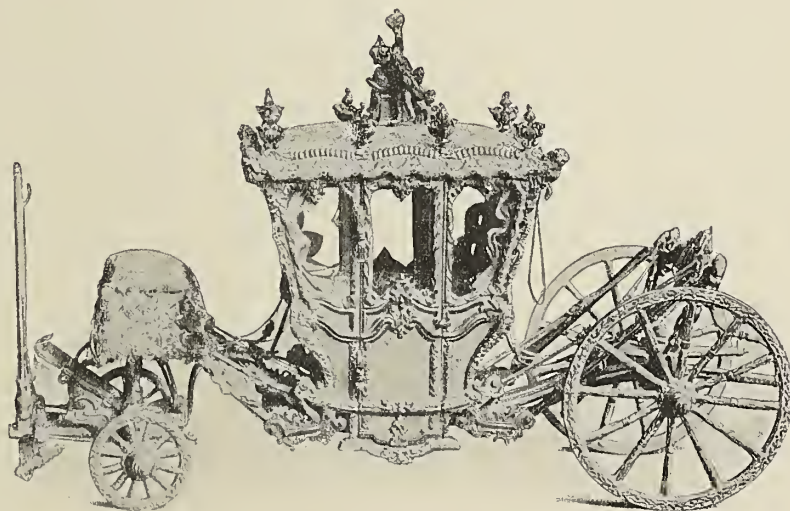
It is absolutely impossible to make anything like a critical survey of work in an exhibition of this magnitude, or even to do anything like justice to the exhibits in classes. The utmost one can do is to record impressions of things that have appealed personally. A word or two must be added, however, about the very high standard of work sent in by the technical schools, as having an important bearing on the sociological question dealt with above. The Arts and Crafts Society recognize this importance, as they have made a special feature of work by students. The Cass Institute, many of whose students are genuine artisans, or such in embryo, send excellent metal work, and their case of jewelry is almost the best in the exhibition. This is only to be expected from Mr. Rathbone's influence, he being one of the well-known metal-workers who has always been content to have his excellent workmanship speak for itself and whose name has always been associated with practical and useful things; he and Mr. Harold Stabler are to be congratulated on the success of their teaching efforts. The Birmingham Municipal School of Art has for years been known as a fountain head of first class work, and the tradition is maintained. The jewelry again, silver and other metal work, is so good that it is hopeless to particularize, and some of the needlework executed under the tuition of Miss Mary Newill is equally fine. Other institutions showing excellent results are the Shoreditch Technical Institute and the Central School of Arts and Crafts, both under the London County Council.

This work strikes a most hopeful note, and gives



NEEDLEWORK PANEL (Unfinished) BY MRS. WALTER CAVE

a reason for believing that in spite of the stress of labor wars, the abuse of machinery and other evils from which we suffer, we may emerge with a hold on our traditions of handicraft and a national art.



COACH—STYLE LOUIS XV.



THE SCHLESINGER PLACE—VALLEY TO THE NORTH OF THE HOUSE—VIEW LOOKING EAST

FREDERICK LAW OLNSTED AND HIS WORK

III. THE SCHLESINGER PLACE, BROOKLINE, MASS.

By JOHN NOLEN

Photographs by Thomas W. Sears

FREDERICK LAW OLNSTED'S work as landscape architect consisted so largely of the creation of parks and the improvement of public property, that it is difficult to find private estates with which he had personal connection. The Schlesinger Place in Brookline, Massachusetts is, however, one of his own designs and a good example of his method of dealing with home grounds. It comprises an irregular tract of land, about twenty-eight acres in extent. The topography of the property is rough and rolling and in the opinion of Mr. Olmsted was not very favorable as the basis for a large and handsome country residence. There was no obvious and inevitable good arrangement. Every plan had serious objections. But it is largely because of its difficul-

ties that the design so well repays study. It shows how an artist accepts conditions and limitations and works to good effect in spite of them; indeed in this case how he definitely plans to make the limitations enhance and aid the ends sought.

The sketch plan of the property herewith shown indicates the character of the grounds. It will be observed that there is considerable variation in grade, the elevations ranging from 70 feet to 105 feet. But compared with the surrounding properties the whole estate is low. It commands no distant view, no views beyond its own borders. In fact the topography is such that there are few points where views of extent can be had within the property itself. The rocky ledge to the southwest shuts off both the view



THE GREAT HOUSE—THE DOMINANT FEATURE OF THE DESIGN

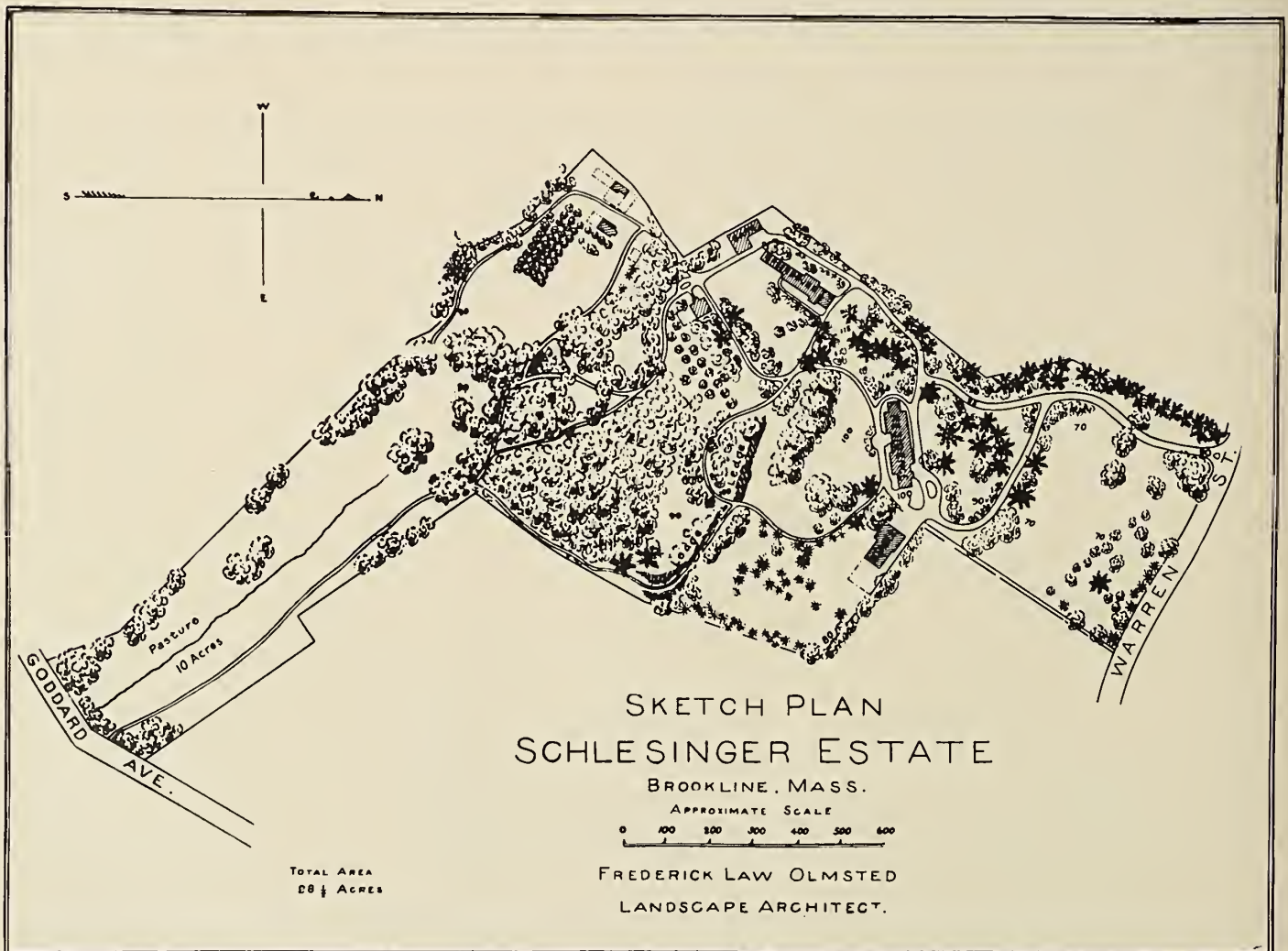
House and Garden

and the wind from that most desirable direction. Furthermore it is to be noted that there was no pond nor stream to add interest to the scene,—except the little rivulet that runs through the pasture lot. Nor was there any large lawn area to give breadth and unity to the compositions of which the house would be the natural centre. But there must have been, even twenty-five years ago when the improvements were begun, large and attractive trees, specimen oaks and elms as well as impressive woodland in desirable locations.

Along with these topographical conditions for the landscape architect to reckon with, the house itself might be included, for although it was not actually built or even located, its size and character were definitely decided upon and its plan and elevations drawn. It was to be a very large brick mansion with brown stone trimmings, combining features of English and French domestic architecture. This building was to be 200 feet in length, rather low in effect with a great square tower near its centre rising to a height of five storeys. A house of large dimensions was required by the owner, and because of this

fact and of the comparatively limited area of the grounds around the house, and the peculiarly prominent position that the residence nearly always has in a private place, this great house became the dominant feature of the design, the one that controlled, or at least affected, almost everything else.

These were the most important of the pre-existing conditions for the landscape architect to keep in mind. The main or controlling purposes of Mr. Olmsted's design may now be outlined. Although they are nowhere in the correspondence definitely set forth, one after another, they may here be conveniently considered under six heads: (1) The orientation of the house so as to receive the best possible aspect and prospect. (2) The establishment of suitable living grounds for the family in connection with the house. (3) The proper location of an entrance road upon good grades. (4) The disposition of the service, stables and greenhouses so that they would be separate, yet convenient. (5) The suitable location of other parts of the design,—pasture, woodland, and orchards. (6) The execution of the design in such a manner as to secure in the completed



THE PLAN

Frederick Law Olmsted and His Work



"THE PROPERTY HAD A POETIC CHARACTER OF ITS OWN—AN UNMISTAKABLE CHARM"

result a positive beauty and a dominating sense of unity. These purposes are important in the development of any private place, and yet one or more of them is often lost sight of. Moreover each "Place" has individuality,—some circumstance of locality, topography or ownership that requires special consideration and treatment. In one of the best garden books published, "Garden Craft Old and New," the genial and well poised author, John D. Sedding, expresses this idea in admirable words: "There is an individual character to every plot of land as to every human face in a crowd, and that man is not wise who, to suit preferences for any given style of gardening, or with a view of copying a design from another place, will ignore the characteristics of the site at his disposal."

Mr. Olmsted's estimate of the site and the keynote of the treatment that he recommended are well expressed in the following quotations from his correspondence. His language is straightforward and unmistakable: "Your property," he wrote Mr. Schlesinger, "does not contain a site suitable for such a house as you contemplate unless you are willing to put up with some conditions which many people would regard as eccentric, but which I should

hope would carry their own justification and therefore simply secure an individuality of character appropriate to the house." A little later he wrote again in the same strain: "The site is not big enough nor fine enough for so large and fine a house and every possible modification is required in the character of the ground to make it and the house appear as a part of one design, each well-fitting to the other." From the beginning Mr. Olmsted believed—and his belief appears justified—that an entirely satisfactory result was out of the question. The problem was to get as good a result as possible.

What, then, was Mr. Olmsted's recommendation as to the site for the house? He states it clearly. "It is desirable that a house such as you have in view should be so placed as to look southwardly upon a lawn which has a slight continuous descent from it, and that there should be no ground higher than that upon which the house stands for a considerable distance in the same direction. There is but one position where this requirement can be met. You will find it near the kitchen end of lawn, west of the Amory house.¹ From this point and in this direction the ground falls away continuously to Goddard Avenue—therefore this establishes the best position on the

¹The Amory house stood upon the property when Mr. Schlesinger bought it.

House and Garden

Amory Place for a summer residence." Mr. Olmsted's first choice for the house site is thus in no way left uncertain. Mr. Schlesinger had other intentions with regard to the location of the house, and Mr. Olmsted's firm insistence upon the advantages of the proposed site was the most important point in this case in the whole service of his client. The house was placed where he recommended, thus securing an attractive prospect both to the north and south, and a pleasant aspect for it from the same directions.

As a connection between the house itself and the living grounds southeast of it, Mr. Olmsted recommended a broad terrace walk, 14 feet wide, constructed in harmony with the house and architecturally defined. If such a terrace was not constructed he urged that the lawn come unbroken to the walls of the house. Unfortunately in this particular, neither of his suggestions was followed. Instead a narrow walk was made. It merely disturbs and breaks, as he said it would, the intimate relation that is essential between house and grounds. Has the Schlesinger house an appropriate garden setting to the south? Does not a house so large and stately as



"THE ENTRANCE DRIVE IS BEAUTIFUL AND SERVICEABLE"

this one is require something more of formality to make the transition to "nature" more gradual? Such questions should not be answered off hand, for to be answered wisely they require a careful examination of the particular property under consideration and a sympathetic knowledge of both formal and landscape gardening. A comparative study of a formal design by Le Notre, like Vaux-le-Vicomte or the formal setting for an estate like "Biltmore," with the best modern English and American naturalistic design, would be illuminating. There is ample room and opportunity for both styles but the question of the appropriate use of either will always be one requiring sound judgment based upon knowledge and experience.

The location of the entrance road and its treatment was almost as difficult to decide upon as the fixing of the house site. The importance of the approach, both in itself and in its effect upon the general design, was insisted upon by Mr. Olmsted again and again. It is perfectly clear from his letters that he looked upon it as the most permanent and important of controllable features. Three plans were con-



GENERAL VIEW OF THE MAIN LAWN SOUTH OF THE HOUSE

Frederick Law Olmsted and His Work



sidered. One called for an entrance from Goddard Avenue, setting off for sale the site of the old Amory house and its entrance from Warren Street. This proposal was abandoned. Another proposed to keep the road as it was, or at least to change it as little as possible. The objections to this were that it divided the ground north of the house into two parts (a serious fault) and in order to connect with the new house it required the cutting away of part of the bank of foliage. Its sole advantage was economy; its justification—holding to an approach that people were accustomed to. The final suggestion was to build a new road to the west of the valley and make a pond in the valley of about half an acre in extent with a depth of water in the middle of about 4 feet.

The excavated material was to be used to lay out the road. The steepest grade of this road would be one in fourteen and this only for a short distance. So far as the location of the road was concerned, the third plan was followed. But the pond was never made. This road proved



"I WOULD MAKE AN ENTRANCE FAR DIFFERENT FROM WHAT IS COMMONLY LOOKED FOR"

entirely satisfactory, and is to-day beautiful and serviceable, forming a fitting approach to the house.

The service road branches off to the left about 300 feet from the entrance as shown on the plan and goes directly to the kitchens and stables. The objections to this arrangement are: it involves the common use of part of the main approach for both family and service; it breaks through the centre of the ground to the north of the house and it is not easily screened without shutting out from the house the view of this pleasant valley. But the valley between Warren Street and the house is at all other points so deep that the construction of a separate service road across it would scarcely have been justified.

The kitchens and stables are very conveniently located at the eastern end of the house, and yet they are so well designed and the ground about them is so successfully planted that they add rather than detract from the beauty of the house scene. The good use of conifers, as shown in the photograph, is worthy of imitation. The greenhouses,



"THE KITCHENS AND STABLES TO THE RIGHT, SKILFULLY SCREENED BY CONIFERS"

House and Garden



“THE PASTURE, ALSO MAKING ITS CONTRIBUTION TO BEAUTY”

the orchards and the pasture were likewise appropriately located. One of Mr. Olmsted's happiest faculties, in both public and private work, was the skilful division of ground for its various purposes. The illustration of the “pasture” shows how much beauty can be incidentally obtained from an altogether utilitarian use of parts of an out-of-town home.

But in conclusion may I point out that the satisfying character of the Schlesinger Place is not due to the convenient and wise treatment of the separate parts of the design, but to a large general ideal which affected every detail, an ideal that never lost sight of appropriateness, of beauty nor of unity. What was the general ideal kept so constantly in view? Early in the correspondence Mr. Olmsted pointed out that this property had a poetic character of its own, an unmistakable charm. This character, it is true, was more or less mangled by roads and buildings; nevertheless it was there. Two courses were open in the construction of the new estate: To unveil and develop the present character of the site to a much higher degree, or to destroy it completely and substitute for it an ideal of an en-

tirely different nature. Mr. Olmsted favored the first course, not from sentiment, but because he believed that in the long run it would contribute more to convenience, health and beauty. His advice was accepted and so we have in the Schlesinger Place a design that is distinctive and consistent. It is a law unto itself. The topography is accepted frankly and its suggestions followed. There is no attempt to smooth it out or change its native character. Mr. Olmsted's general point of view cannot be better illustrated than in his advice as to the entrance: “I would make an entrance far different from what is commonly looked for.....

.....I would have it appear that no more had been done than was necessary to obtain access in the easiest way from the public road across an interposing valley to a fine situation upon a neighboring height. There should not be a suspicion of effort about it for anything but convenience.” And so each apparent difficulty proved, in this master designer's hands, to be an advantage. Insipid compromises were avoided. Moreover this frank—some might even say crude—treatment of the public side suggested that the key to the whole arrangement was to be looked for on the other side of the house, on the side reserved for the family and its guests. Finally, one short quotation from Mr. Olmsted's letter to Mr. Schlesinger illustrates his estimate of the value of design out-of-doors and shows his constant adherence to a high ideal: “The dishing and garnishing (if you take so very poor a view of the outside part of your proposed home) of such a house should be more than good. It should be perfectly excellent of its kind.” Because of such points of view and such standards of work, Mr. Olmsted succeeded in making the Schlesinger Place, like all his other designs, a work of art.

POTTERY FLOWER VASES

BY W. P. JERVIS

Drawings by A. L. Cusick

WHAT lover of flowers, with the added grace of artistic taste, (and one seems to generate the other) but has wandered from store to store in search of a suitable receptacle or holder for some especial flower? Of vases there are literally thousands, garnished from every quarter of the globe. Many of these, as vases, are exquisite, but the thought would obtrude that the craftsman in designing them had no thought beyond a certain beauty of line, or an extravagance in shape which should either attract by its oddity, or perhaps impress you with an air of newness. It was in short a mere ornament and no thought of the combination of the useful and the beautiful had entered into its creation. If by chance you found something nearly approaching in form your ideal, as likely as not it had been rendered utterly useless, because the decorator had regarded it only as so much space on which to exercise his skill and

had not considered its adaptability to some special purpose. More likely than not he had regarded it as a surface to paint on and not to decorate, a fatal difference.

It is a trite saying that if the creator of an object has in mind a definite purpose and understands the necessary requirements the result is bound to be artistic. It is for this reason principally that we find so much to admire in much of the old time pottery, why it impresses us in spite of apparent crudities. We are beginning too to recognise the fact that it is all wrong to crowd our dining tables with a profusion of flowers, arranged in such a manner that it is almost impossible to see much more than half the number of our fellow guests. But happily the epergne is now as extinct as the dodo and surely nothing in its life



PUSSY WILLOW VASE



DAFFODIL VASE



NASTURTIUM BOWL

These mat glazes are slowly but surely making headway and we may be quite sure that what the artist and the art lover of to-day is searching for will be the fashion to-morrow. But as to-morrow has not yet arrived we have had to meet to-day's demands and give decoration and are thankful meanwhile that to-day is demanding much less in this way than did yesterday. So decorations are shown in the accompanying illustrations, for no idea of

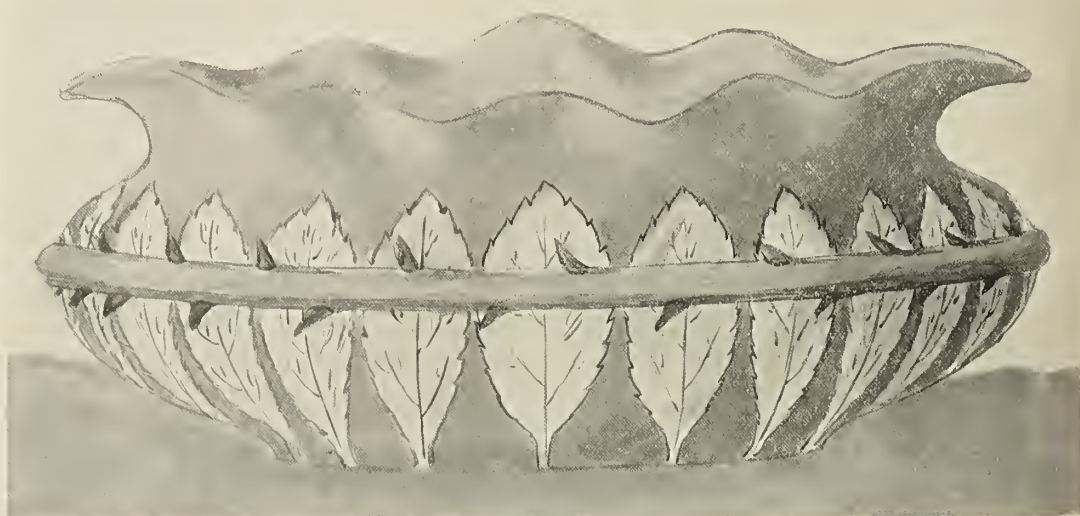
the quality of mat glazes can be given in black and white or be secured by photography. It is a quality recognisable at sight and should give you a desire to touch it.

The first breath of spring brings with it one of the most decorative natural objects we possess, the pussy willow. Lovely as it is it hardly forms a suitable table decoration, but almost anywhere else it will be a thing of beauty for many weeks. Its long stems and weight seems to call for a tall vase, not too wide at the top, but with a very firm base, so that the danger of overbalancing might be reduced to a minimum. Later this vase could be utilized for pæonies, goldenrod, dahlias or almost any flower with long stems and heavy blooms. For daffodils it is of course too high and though these charming flowers also demand a firm base, a less pretentious vase is more desirable. This we have enriched with a quotation from "The Winter's Tale." "Daffodils that come before the swallow dares" and per parenthesis no one but Shakespeare could have written that. Almost as

became it so well as the leaving of it. And with its extinction came a demand for low bowls or vessels to hold cut flowers, but as far as we know no definite attempt has been made to meet this demand, so articles of utility intended and designed for entirely different purposes, have been pressed into service with more or less satisfactory results. But it is not specially with the decoration of the dining-table that we are concerned, for in this each one must be a law to himself, but rather with the boudoir, the morning room; a nook in the hall, or a corner of the den, such places in fact where the most time is spent and where a few flowers by their cheery presence, will be an inspiration to higher thoughts and deeds; glorify perchance our daily task, or bring back with fond insistence some golden day, or some loved face, out of a half forgotten past.

The daily task in this case being to produce vases in pottery, an effort has been made to adapt them to some specific use, possibly with no very great amount of success, but the effort may be at least suggestive and later lead to more definite results.

The cool depths of mat glazes are unquestionably the best adapted for flower vases and have an unobtrusiveness and color values impossible to obtain in bright glazes. Of these the preferable colors are the greens, especially in shade combinations, the varying depths being full of subtle suggestion and decidedly more attractive than the rather sombre self colored pieces.



ROSE BOWL

UNION
NEW YORK



JARDINIÈRE—THREE HANDLES



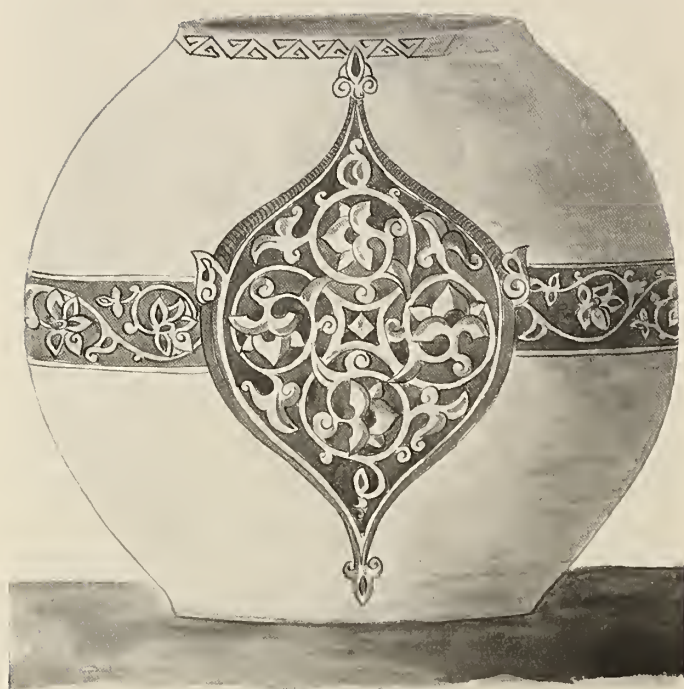
NASTURTIUM VASE



CARNATION VASE



LILY-OF-THE-VALLEY VASE



PERSIAN ROSE BOWL

lovely as the daffodil is the nasturtium, a flower capable of infinite variety of arrangement but perhaps best adapted to a low bowl with a turnover rim so that the flowers can be well massed together and their delicate stems protected, but it would be quite admissible and in some cases much more artistic to use only a few blooms in a low squat bottle with a somewhat narrow neck. Just sufficient blooms and foliage to comfortably fill the neck without pressure. The bowl can also be used for many varieties of woodland and cultivated flowers.



VIOLET HOLDER

The queen of flowers, the rose, should, obviously, have regal treatment with separate holders for the different varieties. For the table a low bowl has the edges turned outwards, so as to form a support to the stem, which also finds further support in the interior of the bowl, these stems in turn helping to support the centre flowers. A second bowl for roses is also illustrated, and other forms may be had.

For other places a tall vase or jar of generous proportions is preferable, of a color to harmonise with the flowers which, if gathered with a liberal amount of foliage and not overcrowded, fall naturally into the most graceful poses. The old shape rose bowl for some of the less pretentious varieties is not to be despised and these we usually give a Persian decoration.

In England the violet holder is a small shallow tub, with a perforated cover, but it would be of little use here for the longer stemmed and more robust violet of our woods and fields. Either of the two shapes illustrated seem suitable, the latter of the two from its lesser capacity being intended for editors and potters. Either shape can also be used for lily-of-the-valley.

The carnation and flowers of kindred character demand similar receptacles to the rose and the shapes for such could be multiplied indefinitely, but simplicity should be the keynote.

The flowers are surely more important in their beauty than the holder, so the more ornate the latter is the more likelihood is there that some beauty in the flower may be lost—and so ephemeral are they that it behooves us to enjoy them to the utmost whilst we can.

For large bunches of mixed flowers, for the Marguerite, black-eyed Susan, dog rose and a hundred other gems of the country, a jardiniere makes an excellent receptacle, and has the advantage of being applicable for other purposes, and low enough in



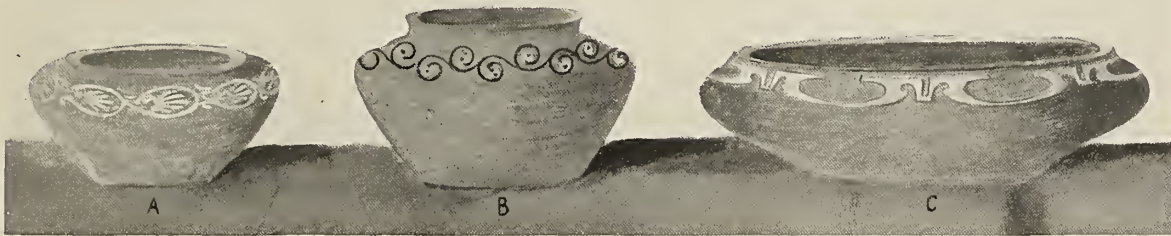
ROSE BOWL

The Sapphire

price to be within the reach of all. Indeed the lower priced ones with their self colored glazes are usually better adapted to this purpose than the more ornate and higher priced ones.

No attempt has been made by the writer to suggest anything as to the arrangement of the flowers themselves, a most important consideration, and in those illustrated, allowances must be made for the

fact that flowers were not available to group and make sketches from, so that the artist labored under a serious disadvantage—nor has the subject been anything like exhausted, but it may perhaps set others thinking on the same lines and possibly be the means of evoking suggestions of more value than anything herein contained. The field for invention, in the direction indicated, is practically limitless.



THE SAPPHIRE

THIS beautiful stone was known to the ancients as *amethystus* and *hyacinthus*. Though it bears the same family name as the amethyst, it is more nearly related to the ruby, being formed of pure alumina, which is the oxide of the metal aluminium, besides which it has other properties which mark it as “precious corundum.”

There are some splendid specimens of old uncut sapphire in the crown of Lombardy of King Agiluph; also in the Iron Crown of Monza, given to the cathedral by Queen Theodolinda, which I have already had occasion to mention in our wanderings among precious stones. There are other *cabochon* sapphires in the crown of Hungary made for Michael Ducas in 1072. There is a curious specimen of old sapphire in the library of Trinity College, Cambridge, in the form of part of a necklace of small rough sapphires, drilled and strung on gold wire; it corresponds exactly to an ornament mentioned by the poet Naumachius. How it found its way to Cambridge I do not know.

Old engraved sapphires are rare, no doubt because their hardness made them costly to work; but King, in his history of precious stones, mentions one which had been found decorating the pommel of a Turkish dagger; the engraving had been turned inwards, and the back roughly cut by some unskilled Oriental lapidary. The engraving was a magnificent head of Jupiter, with the inscription IIY upon it; it was in

the best Greek style, which proved it to be of great age. It probably had been looted from some Greek palace in the old fighting days, and the stone turned, because all images are anathema to the true believer. At one time the Marlborough Collection boasted an even finer work of art than this Jupiter; it was of the same school and period, and was a Medusa's head in the finest workmanship, the stone itself being the clearest blue.

For centuries sapphires have been the favourite stone for episcopal rings. The ring of the Abbot of Folleville, which is preserved at Braybrooke College, is probably the oldest ecclesiastical jewel extant; it is set with a large uncut or native sapphire, and is of great age.

Epiphanius records the notion prevalent in his time that the sapphire had the power of extinguishing fire; this idea no doubt arose from the extreme, almost icy coldness of the stone, which seems by nature to repel all idea of warmth. Sapphires vary very much in color, passing from deep indigo blue to white.

Sapphires are the best gems for wearing by daylight, as the beauty of their coloring can then be better observed; they are, however, popular at all times, and are one of the favorite gems of King Edward, of England, who frequently gives sapphires for presents. They are a very becoming stone, and do not scratch or chip easily.

F. Lancaster Lucas in *The Art Workers' Quarterly*.

THE HOUSE AND ITS SITE

By WILLIAM C. HAZLETT

THE highest authority we possess upon methods, morals and manners has advised us to count the cost of a tower before beginning to build. This is, of course, but another way of suggesting the advisability of taking heed at the beginning that the result be worth the cost. If this applies to towers, mere marks of power or vantage ground for watchfulness, how much more should it apply to the house,—the man's Home—his castle and his family's fold. And of the parts of the cost of this to-be-well-considered result—this home—the most important in their order, taking it for granted that healthfulness, strength and durability have been provided—is the fitting of the home to its occupant, and the house to its site. The first of these, though pregnant with suggestion, is not the subject of this present inquiry.

Many men of well-ordered domestic habits have had it long in mind to become the owner and possessor of a home, the temple of the family altar and the household gods; the *locus* of his own vine and fig tree. In course of time, with the exercise of such care and prudence in its selection as may be, he has in his possession a site for this home. A stately spread of ground perhaps, wooded, with hill and valley, forest, stream and distant view of sea or mountain. Maybe, a modest portion of the earth with little of intrinsic worth. Whatever it is, it is his own and is to receive, in the ordering of his home, his best care and attention.

This site, large or small, stately or modest—and the small and modest requires greater thought and care than the other—has certain inherent conditions of prospect and aspect; certain individualities of view, a tree here, a boulder there; a stream, a slope; an ugly thing to be hidden, an unpleasant prospect to be masked; whatever you will—which differentiates it from another, making it a thing apart and to be treated by itself. Given this site, with whatever conditions in a y surround or be a part of it, his house must adapt itself to these, not they to it; must bend itself, with due

consideration for his mode and habit of life, to its environment; must fit him, his site and its conditions, as does his glove, his coat, or anything that by long use has become almost a part and parcel of himself.

And this condition of adaptability, this necessity for so planning that every advantage that nature has given to the site may be made the most of; this bending and shifting of plan so as to obtain the maximum of *goods* and minimum of *ills*, is a function of each site and a condition precedent to the act of building. It is not intended that this fitting of house to site should mean to advocate the forcing of plan, the bizarre and extravagant bending of it merely for the sake of acquiring a fancied condition of individuality or for the sake of being unusual; but rather the sober, thoughtful placing of room, or door, or window where the special need requires, the careful weighing and balancing of demands and the quiet refinement that necessarily goes with a studied and well digested whole. The individuality of plan will follow of itself. The differences that mark the house of X. and Y. come from the careful and systematic following of the programme and of the particular conditions that obtain in the one and not in the other; and they will differ only as the habit of life of their occupants vary and the surrounding conditions are unlike; but one will be the house of X., the other that of Y., and no more alike than X. and Y. themselves.

There is no site so small, none so crooked, no condition so bad, but that by taking care, help may come. Possibly the long and narrow plot, owned and sold by speculative land companies and common in suburban towns, may be thought to be without the pale, but

it may be shown that even with this condition, bad as it is, something of interest and individuality may be made to obtain.

Too much insistence cannot be laid upon this matter of fitness. It should be, and is, of trifling importance whether the convention is

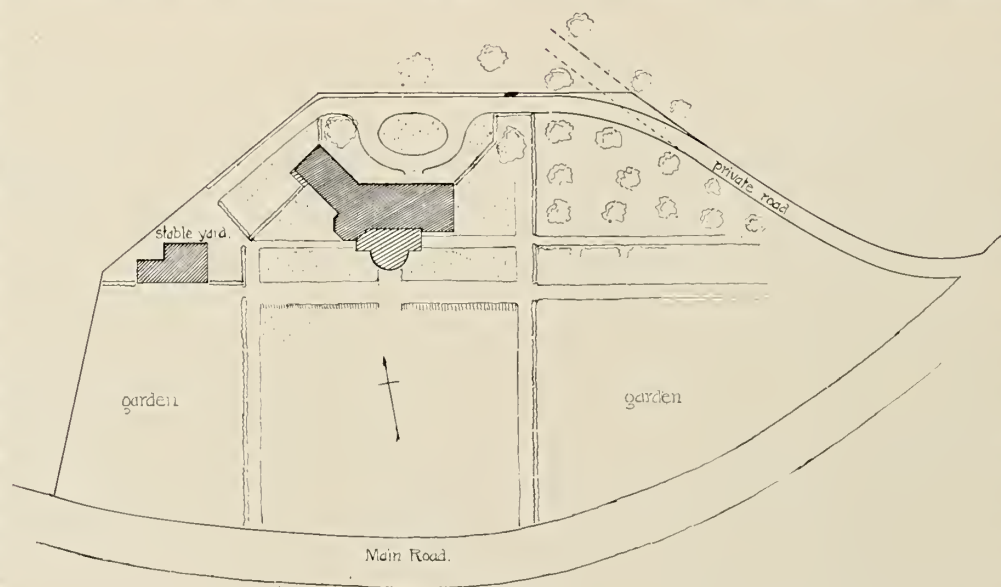


FIGURE 1

The House and Its Site

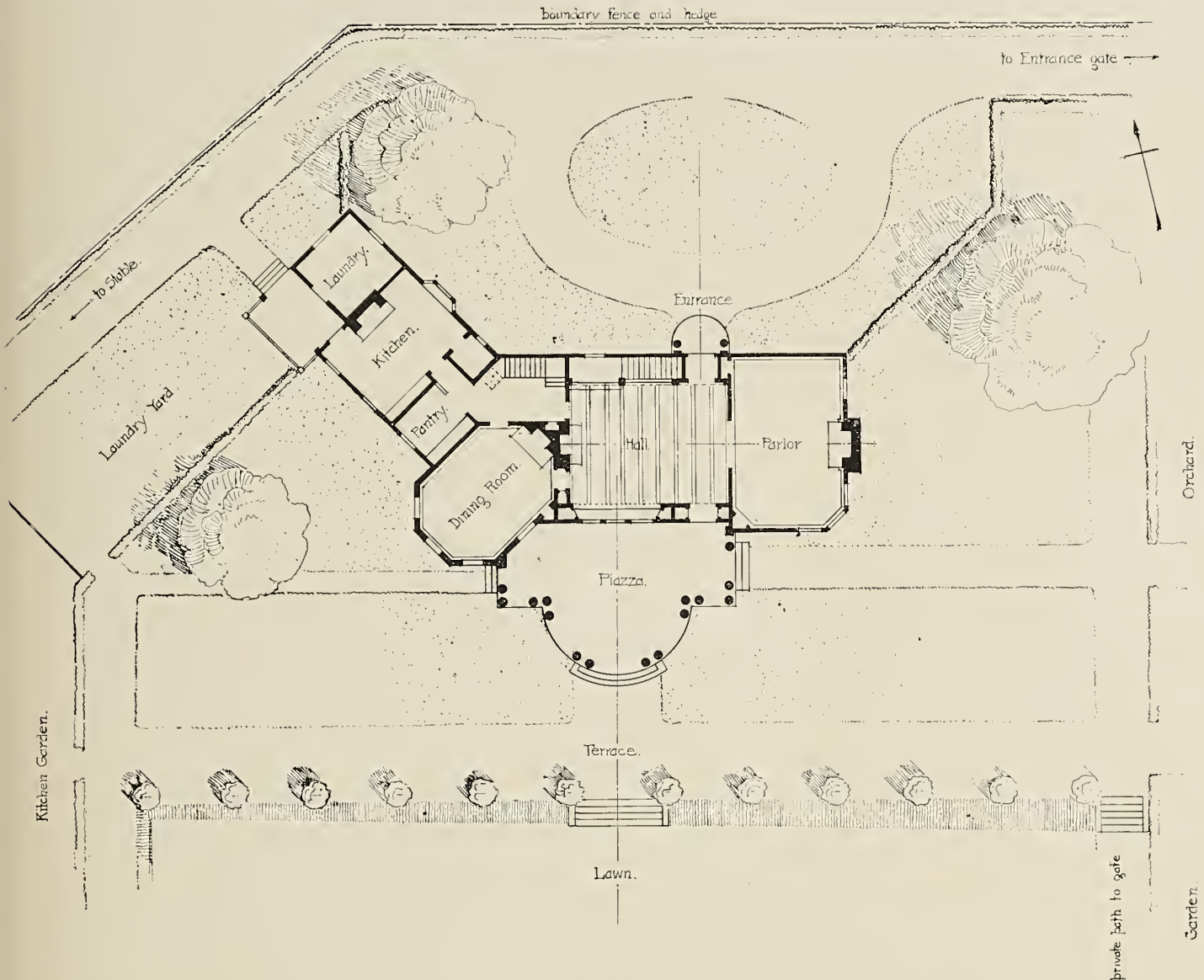


FIGURE 2

followed in the plan; whether this wing is symmetrical with that; whether this garden is balanced upon the axis of that room; whether a hundred things are done that are supposed to be required by some irrelevant condition; but it is of importance that the sun should shine in where his warmth and light is desired; that this or that room should be open to the cool breath of the summer breeze or protected from the cold of winter; that this view should be enjoyed; that the other should be hidden and not obtrude itself.

That is what is to be sought and that can only be gained by a careful, loving study of all the conditions which go to make up the site and its surroundings.

There are probably no people who paid so much attention to the comfort and elegance of their homes, according to their customs and habits, as did the Romans. There are extant, letters of Cicero and the younger Pliny, descriptive of their country homes. Pliny's villa was on the seashore some seventeen

miles from Rome. "It is," says the Consul, "large enough for my convenience, and does not require a costly maintenance. In the first place, there is an entrance hall, simple in character without being mean; thence you enter a circular portico enclosing a small but pleasant court; there you are sheltered from the weather, for the porticoes are protected by transparent screens, and still more effectually by the projection of higher roofs.

"This second court communicates with a third and larger one, into which opens the dining-room jutting out on the sea, so that when the southwest wind blows and the waves have lost their first violence they gently wash the base of the walls. This room is pierced on all sides by doors, and windows as large as the doors, so that, front and sides included, you see three seas, and at the side you enter by, the great court with its portico, the small circular court, then the entrance hall, and beyond that the woods and mountains.

House and Garden

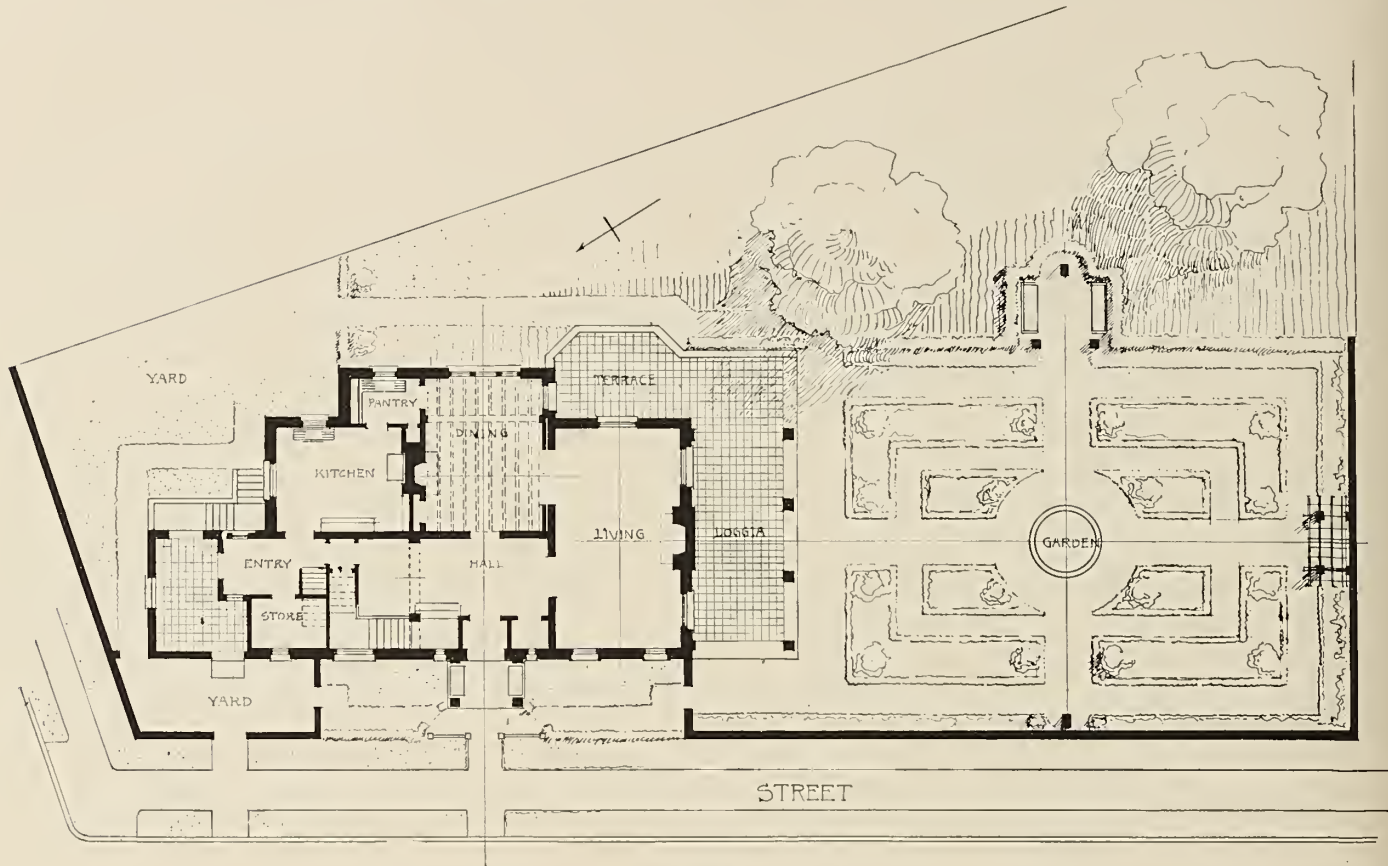


FIGURE 3

"On the left of the dining-room is a large secluded room, then another smaller one open to east and west. On this west side there is a view of the sea, not so close as from the dining-room, but, on the other hand, a more tranquil one. Outside, near the dining-room, the building forms an interior angle which retains and intensifies the lively warmth of the sun. This place is very agreeable in the winter and serves as a gymnasium for my servants during that season. No other winds are heard there but those occasioned by the clouds that disturb the serenity of the sky."

There is, in this description, no dwelling upon the size or grandeur of his house, its richness or its luxury; no reference to its appearance or its cost; but rather an insistence upon its convenience; its quiet here, the view to be obtained there; its warmth here, its shade and coolness there; its absolute fitness for its purpose and its site. These were the things he had in mind because these gave him happiness and comfort.

Pliny had not only this house in the environs of Ostia, but also another in

Tuscany. In a different locality, a different climate, he describes different arrangements. These two country houses present plans peculiar to each and determined by the situation, the advantages of aspect, scenery, water, and the habits of the country; but these conditions and these alone were factors in the disposition of their plans. It may be said that these were great houses occupied by a wealthy and powerful family and kept in order by a large and numerous retinue of servants. So they were, but the principles that underlie the disposition of parts in the cottage and the palace are essentially the same, only differing in the degree to which they are capable of application.

By reason of the very nature of this problem of fitness of home to site; by reason of the fact that each case is, in a sense, unique, and must of necessity, be so; there are no rules which will assist, no set method for its solving, except the broad and general rule which applies to the aspect—the relation of the house to the points of the compass—and then only under the average conditions of wind and weather which obtain in

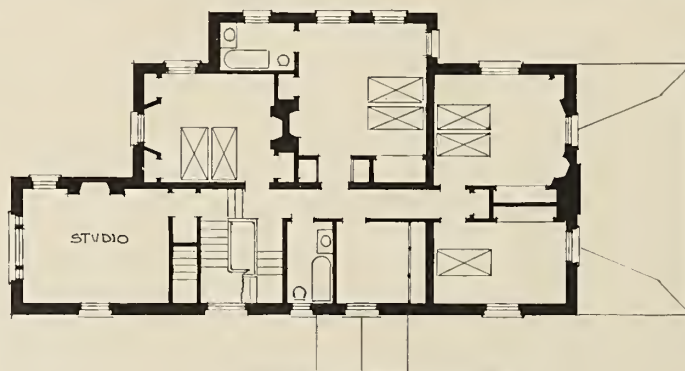


FIGURE 4—FIRST FLOOR

The House and Its Site

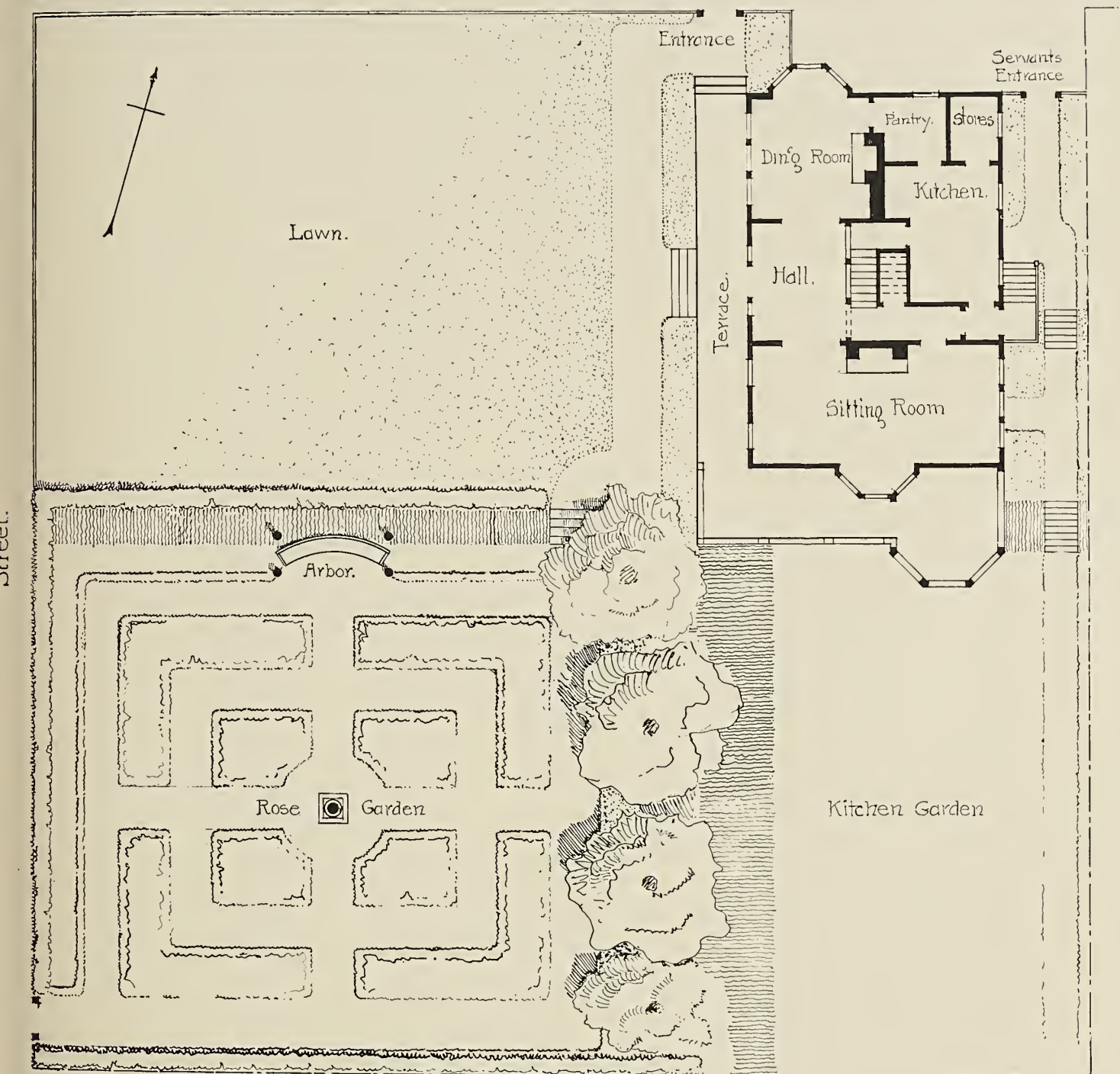


FIGURE 5

any particular locality. This, broadly stated, and applicable especially to this latitude, with modification for some locations, is as follows: Open the living and principal bedrooms to the sun, that is, from the east to the southwest, and regulate the kitchens, offices and minor rooms to the west to northeast. The reason for this is obvious. The major rooms have not only the cool breeze of the summer but also the warm sun of winter, and are protected from the cold and driving northwest winds of the latter season by the position of the minor rooms.

Now, when it is considered how special conditions of site may work against even this broad law; how

conditions of prospect may complicate and seek to nullify it, and how it becomes necessary to weigh and balance all these conflicting factors, it is plain that no general rule will or can be made to apply.

In the necessary absence, then, of any general law, it may be well to show, by illustration, some solutions that have been arrived at under certain given conditions; some fittings to site, with its attendant factors, and the reasons therefor; not as models but as signboards pointing a way to similar considerations.

These illustrations are of houses designed and built by the author of this article and architects of his acquaintance, and are selected as examples of

House and Garden

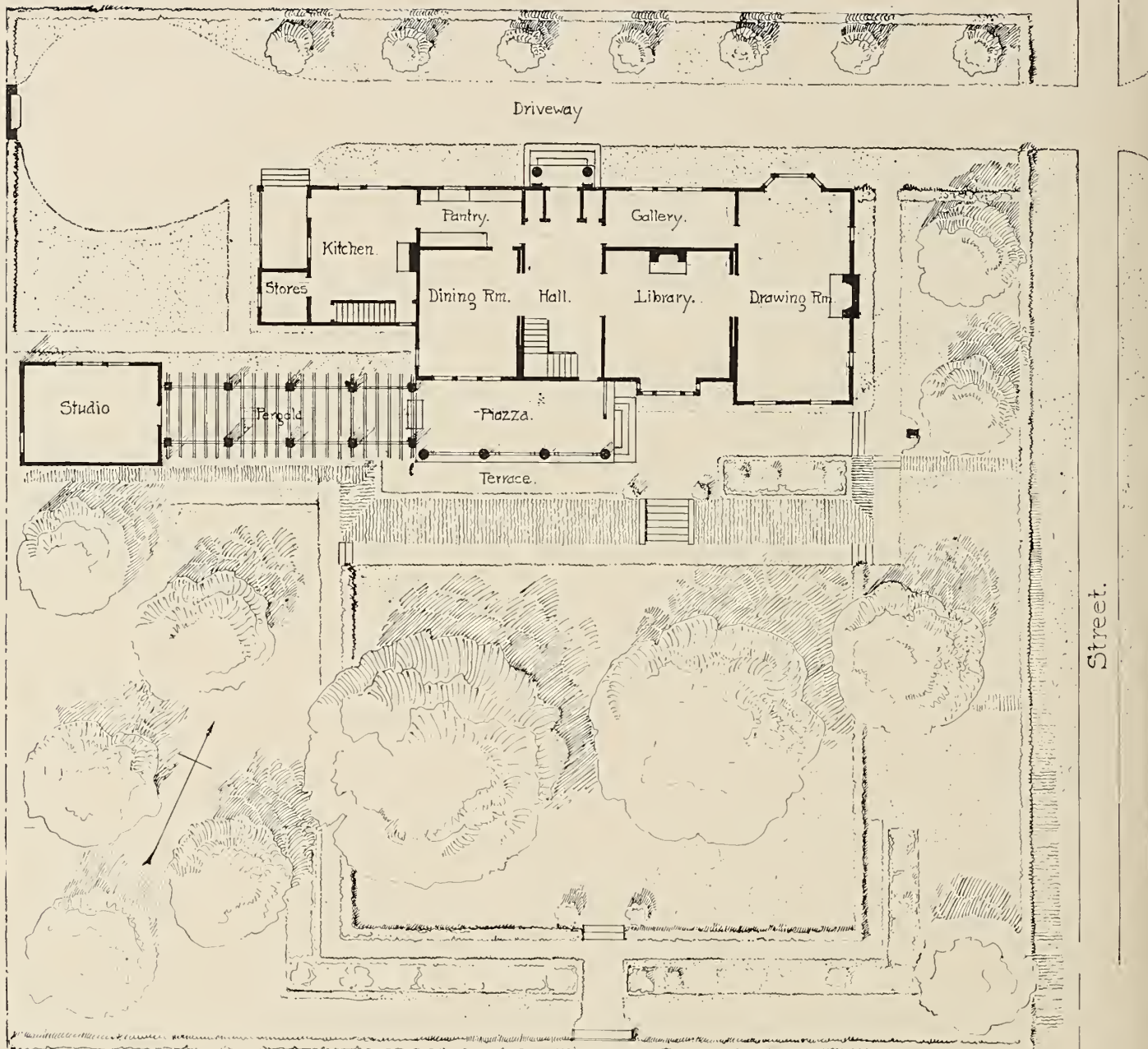


FIGURE 6

average and every-day practice,—not the usual or uncommon—are selected as being of moderate cost and built for men of moderate habit of life; as being, in fine, average houses under average conditions.

They are all of the country or suburban type—the city house, except where its grounds are large, being designed under such restriction and limitation of site as to make this inquiry usually uninteresting. They are all by plan alone, since their appearance has nothing to do with the present consideration of this subject.

The first, Figs. 1 and 2, are respectively the grounds and plan of a house built just beyond the northern limits of the city of New York.

Upon the top and part way down the southern slope of a hill which juts into a valley as a point juts

into a broad river, stood an old orchard. The farm, of which the orchard was a part, had ceased to be of use; but the orchard still bore fruit, and the resident farmer—farmer and caretaker in one—tilled only such portion of the land as his needs required; the rest lying fallow and waiting the march of events. From the edge of the hill toward the south, by reason of the hills inset into the valley, the valley's length spread out, with wooded heights on either hand and, at its extreme end, some ten miles away and at the horizon's level, was traced the many arches of a bridge, the High Bridge across the Harlem. From this orchard, to the west, could be seen the heights of the Palisades; and to the east, the silver ribbon of the Sound and the green hills of Long Island. To the north, behind the orchard, the land lay high and

The House and Its Site

wooded with short and inconsequential view. Upon this hill, at the edge of the orchard, was built the house of Mr. M—. Before determining the site and the plan the approach required consideration.

The main road from the railway station, which lay some three-quarters of a mile to the eastward, wound across the southern face of the hill—making the southern boundary of the property—and after joining the Ridge road led into the farm from the northeast. On account of the greater travel, and for other reasons, this approach was not suitable. There was an old road, however, which sidled up the hill and lost itself in the orchard, and this, with some regrading and change in direction toward its upper end, became the private road and a very satisfactory approach.

At the top of this road was a level piece of ground and two good trees which fixed the size of the sweep before the door and the site of the house; but this sweep, and the site,

and the sun and the prospect was in the other direction, and so the front of the house became the back, and the plan made itself.

The kitchen wing was bent back to allow the full advantage of the prospect to the west and as a protection to the rest of the house from the cold winds of the northwest, and helped, with the hedge upon the other side, to form a forecourt before the door and a screen to the drying yard and stable. All the living-rooms, and the bedrooms above, enjoy the prospect and the sun.

Upon the outskirts of the same city, and on the eastern side of the same valley, a painter of pictures, Mr. G., desired to build his home and studio upon a piece of ground to which he had fallen heir. Perhaps if the plot had not come to him in some such way, it had not been used for this purpose, since, at first sight, it seemed almost impracticable.

The conditions of the site were these: It lay on the westerly side of a street which ran across the westward-facing slope of a hill rising, quite steeply, to a ridge perhaps a quarter of a mile beyond.

The plot had a length along this street of something over one hundred and fifty feet, a width at its northern end of about fifty, and widened at its southern limit to one hundred and twelve feet. It had a drop in grade from the street to the back of the lot—from east to west—of fifteen feet. Two fair-sized trees stood in the southwest corner.

The street in front was far from pleasant, being in an adolescent condition and occupied, from time to time, by dust and a noisy trolley car and, permanently, by a prospect of the stilted ends of dwellings on a higher level and the possibilities of speculative building.

To the north and south the immediate view was unimportant, but to the west lay the heights above Kingsbridge, the stretches of the Harlem river and a vista to the Hudson and the wooded shores of New Jersey.

The conditions imposed by Mr. G. were—*sine qua non*—a home, a studio of very moderate size and removed as far as possible from the machinery of the household, the benefit of all the sun and view there was, and as much garden and privacy as possible. Figs. 3 and 4 show how these were met.

The house was set close up to the northern and narrow end of the lot and as near the street as possible, leaving but a strip of yard and a kitchen court. A wall some eight feet high was built about the garden and the yard. No living, and but one bedroom, looks upon the street, the street windows in the living-room being set high from the floor. The sun marches through all the rooms and each enjoys his view. The trees roughly determine the width of the garden and, by filling and levelling, it occupies all the remaining available space, the hedge screening any near unpleasant prospect and securing

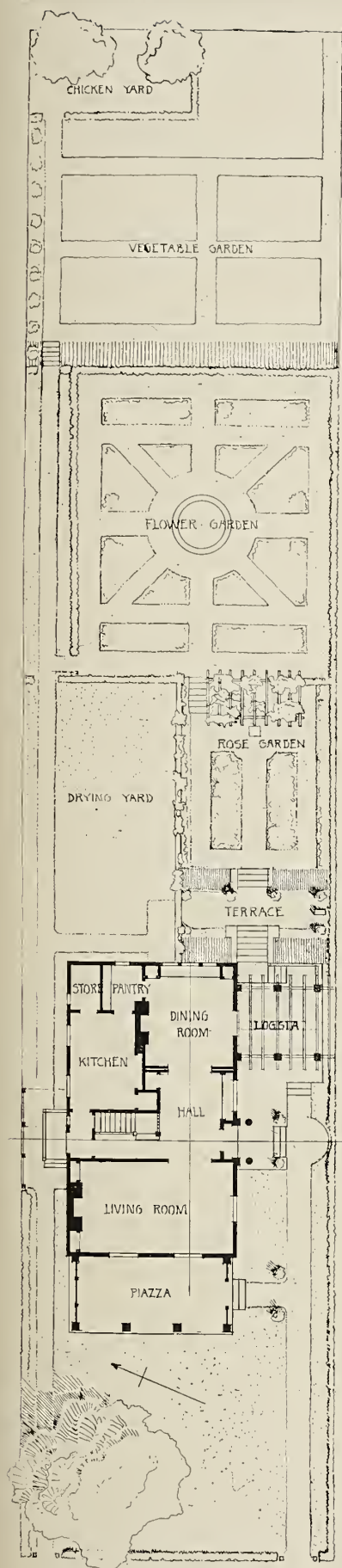


FIGURE 7

was close up to the northern side of the property,

House and Garden

privacy, while the hedged alcove gives a quiet and secluded nook.

The projecting terrace off the dining-room, glazed in, serves as a winter conservatory, and the house and grounds fulfill, to his satisfaction, the requirements of G.

In a New Jersey village was a lot upon a corner—Fig. 5. The street, whose trend was east and west, was the main street of this community, while the other was of minor importance. At their junction stands the house of Mrs. M.

The ground slopes sharply toward the south, so much so that the basement at the rear stands wholly out of ground.

The village lies on the southern slope of the mountains, and the view—save that of the village street, dusty and tame—lies altogether to the south, across a valley through which a river flows to Morristown and the Orange Hills. Hence the house was built as shown.

Set almost upon the street, to keep the cellar floor at grade and give as large a garden as might be; the dining-room with a projecting bay to catch the morning sun; the living-room, where lies the prospect; the minor offices, upon the main street front. This last, to the consternation of all neighbors, critics and general wiseacres. These said the position of the living-room was "quite unusual;" the poking of the house up in the corner was "absurd," but the pantry on the main street was "the limit." The house was "anathema" until finished, occupied, and visited. It is now pronounced "most satisfactory," "individual," and "wise."

Perhaps, of these illustrations, a house—Fig. 6—built in a minor city upon the north shore of Long Island Sound, by an architect for his own occupancy, is the best example of the wisdom of a radical departure from conventional arrangement under quite usual and commonplace conditions.

The plot, about one hundred and fifty feet square, with a few fine trees in its southern half, lay upon a long, gentle southern slope at the bottom of which, and perhaps half a mile away, was the Shore drive and the waters of the Sound. What view there was lay in that direction, but this was fugitive, glimpses between houses and the foliage of trees. Boldly was the house set, its narrow end to the street as near the northern boundary as a driveway and space for planting a screen of trees would permit. All the living-rooms open to the prospect, to the sun and the cool southerly breeze of summer and are protected from the cold north winds of winter. The

expanse of lawn, its privacy, and the great trees remain; all that the plot could give in inherent advantage has been retained. Imagine this in the hands of the Philistine.

The house in the centre of the plot, its front to the street, its side to the sun and air, its face to the cold; the trees gone, the lawn frittered away by subdivision; all charm and individuality departed. The usual, the commonplace, the wasteful. Wasteful because the gifts the gods provided have been thrown away.

In the same city, some little distance away, but under very different conditions was built a house for Mr. J.—Fig. 7.

The lot was but fifty-one feet in width by some two hundred and sixty in depth, and lay upon a slope that dropped from the street to the rear—the east—some twenty feet. This slope continued to a valley, then rose, studded with trees and houses, to a ridge. Across this valley was the view; that in front being the usual suburban street with a quartering prospect down its length to the Sound. Note the boldness of the entrance on the side, insuring a living-room of generous size; how advantage is taken of the view across the valley and the garden, in the placing of the dining-room with its attendant screened loggia and its exposure to the morning sun; how this same view is made part of the vista through the house and framed in, as a picture, by the great window of this room.

Consider the charm of a breakfast in that vine-clad loggia on a June morning, the rose garden at one's feet, the sun filtering through the lattice upon white linen and sparkling glass, the distance from the street, insuring privacy and quiet; both planning and fenestration of the adjoining house so done as to guard this loggia, and the entrance, from direct observation. This was the way of the building of the house of J. upon, that bugbear of the designer, the long and narrow lot.

The experience of the author of these remarks with his own clients, and his observation of the results of the experience of other architects with theirs, has led him to believe that the subject matter of this inquiry does not always receive its due consideration.

If, without adding one jot to the cost, in dollars, of the house, something of benefit, comfort and beauty *may* be added to it, the taking pains is well worth while; and if these remarks may cause any-one to consider the wisdom of taking such pains, they have accomplished their object.

THE IMPORTANCE OF CEMENT AND ITS PRODUCTS IN HOUSE BUILDING

BY J. M. HASKELL

PORTLAND cement is a dry almost impalpable green powder, sometimes blue, sometimes yellow in tone, which is sold in barrels or bags.

It has the peculiar property that, when it is moistened with water, it forms, on drying, an extremely hard mass, like stone. This result is due to something more than the sort of hardening which takes place when powdered earth or clay is moistened and dries again into a hardened cake, for a chemical change has taken place through the action of the water upon the cement powder, and the dried product is something quite different chemically from the original powder.

Cement Mortar The principal use to which the Portland cements were originally put, and for which, indeed, they continue to be universally employed, was in the making of mortar for brickwork and stone masonry.

Cement mortar is, however, not composed of cement powder and water alone. This mixture is not used for several reasons. First, because the neat cement mortar, as it is termed, is so much harder than bricks or most building stones that it would not be good policy to use it, as nothing is really gained by having the cementing or binding material harder than the pieces of solid material out of which the masonry itself is constructed. Secondly, a mixture of cement and water alone, shrinks in volume as it dries, and cracks on drying owing to the contraction of the mass. For these two reasons the cement is usually mixed with some inert substance which, while increasing the volume of the mortar, and so preventing cracks on drying, reduces its strength to that of the materials it is to bind. The inert material usually employed for the purpose is clean sharp-grained river or pit sand; and as such sand is many times cheaper than

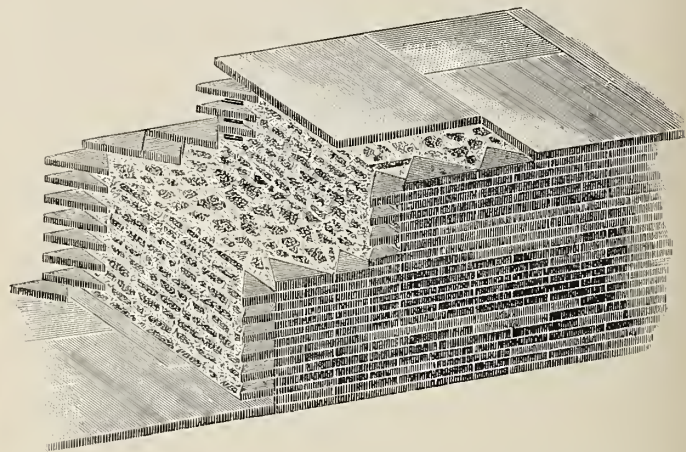


THE VERSATILITY OF CEMENT

Cement Age.



THE PANTHEON, ROME. BUILT A. D. 120. WALLS OF CONCRETE, FACED WITH BRICK



EXAMPLE OF ROMAN WALL, INTERIOR OF MORTAR AND SMALL STONES, BRICK FACING

cement, a great economy of cost is effected at the same time that the physical and structural qualities of the mortar are improved. The proportion of sand to cement varies from three to six according to the hardness of the stones or bricks in the wall and according to the weight to be imposed upon it.

Hydraulic Properties of Portland Cement The Portland cements have the further invaluable property of not being effected by the presence of water after the first water is added to the dry powder to form the wet mass, or mortar. That is to say, if we mix the dry cement powder with water sufficient to form a paste we may place this paste under water and the hardening process will continue as if it were in air, although the time of hardening or setting will be retarded.



A COUNTRY HOUSE IN LOWER CALIFORNIA

Cement Age.

Built entirely of concrete, with tile roof. This example illustrates the decorative possibilities of concrete where a plain effect is not desired.

This is very suitable to the sub-tropical setting of the house

The Importance of Cement and Its Products in House Building

The ultimate degree of hardness attained, however, will be the same in either case.

Advantages Of Cement Mortar We have, then two, or rather three, indispensable qualities not possessed by the old-fashioned lime mortar.

First. Cement mortar becomes hard within a comparatively short time, varying from two or three hours to a day, according to the brand of cement.

Second. A degree of hardness not attainable with lime mortar except after a lapse of years.

Third. It is unaffected by the presence of moisture or even free water in any quantity.

This latter quality makes the use of cement mortar imperative for all foundation work and no basement walls should ever be laid in any other kind, as lime mortar, which hardens very slowly even under the most favorable circumstances, never hardens at all so long as it is kept moist.

Economy of Cement Mortar For this reason, even in the cheaper class of building, cement mortar should be used from the lowest course of the foundations to and



A CONCRETE HOUSE IN SAN FRANCISCO

Cement Age.

When the planting of the lot is completed much of the bareness of the side wall will disappear. The other side of the house is the more important and the photograph should have been taken from that point of view



CLOTHES POSTS, SUITABLE FOR BACK NETS, CLOTHES YARDS, ETC.

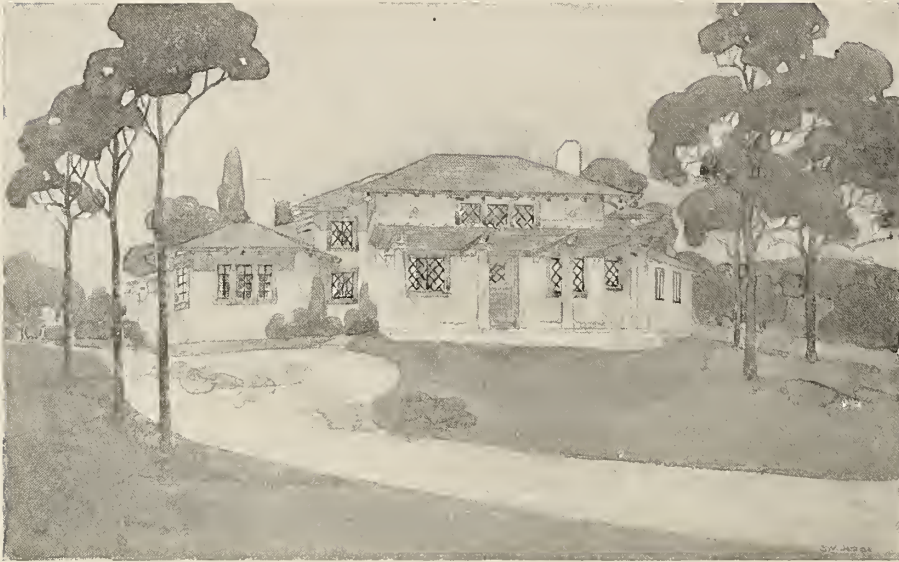
Cement Age

including the water-table course, up to which point the moisture of the soil is apt to rise by capillary attraction. Above that point, even where, for the sake of economy lime mortar is used, it is a further real economy to add to the lime mortar a small portion of cement, about a fourth or a fifth of the volume. Even this slight addition effects a radical change in the character of the mortar, and the increase in setting or hardening capacity, in resistance to moisture and in ultimate strength, is greatly in excess of the ratio of increased cost, which is slight.

The Value Of Good Mortar

The value and importance of good mortar is usually not understood by homeowners. Speaking from an active experience of twenty-five years gained in the erection of many kinds of buildings I may say that if I were offered the choice between building an important wall of good mortar and indifferent stone or brick or with the best quality of stone or brick and indifferent mortar, I would invariably choose the former. The strength and durability of old Roman work is mainly due to the excellent quality of their mortar

House and Garden



VIEW OF A COTTAGE BUILT IN THE SUBURBS OF NEW YORK FOR \$7,400
Sullivan W. Jones, Architect
Built of cinder concrete mixed in the proportion of 7 to 1

Cement Age

and their lavish use of it. The drawing and photograph of an old Roman construction, on page 236, which is standing to-day with unimpaired strength, fully illustrates and confirms the point in question; and it is only one of many similar examples.

Stucco and Pebble Dashing

In the use, too, of stucco or pebble dashed work, an admixture of cement is essential, as permanence cannot be assured by any other means. Stucco is the name usually given to mortar when it is applied to the outside of a wall and spread over the surface of the wall either as a means of protection from weather, or for decorative effect, or both. When pebbles are thrown or dashed against the wall while the mortar is still soft they are held in place as the mortar hardens, and the resulting effect is known as pebble dashed work.

This use of mortar is one of the severest tests of its excellence and durability to which it can be subjected, as its widespread surface and relative thinness weaken its resistance while subjected to the full force of storm and frost. Under such circumstances it is of the highest importance that cement should be added in large quantities, and that the mortar should have a strong hold or clinch upon its supports.

Wire Cloth

This support was formerly supplied by ordinary wooden laths laid as is customary for inside plastering, but a modern improvement

consists in the use of what is known as wire cloth, stretched between supports on the wall, in the meshes of which the mortar finds a secure hold.

The above remarks apply primarily to the way in which stucco or pebble dashing is applied to the outside of a frame building, as it is more usual to apply the material directly to the surface of a brick or stone wall; but I am inclined to think from my observation of the results that the wire cloth method is advantageous even for masonry structures.

Concrete may be shortly explained by saying that it is mortar to which small stones have been added.

The purpose of this addition is to convert the mortar from a simple binding material to one which can be used as a substitute for masonry itself. Or, to put it in another way, it enables us to build a wall of any desired height, breadth or length even to a mighty dam two hundred feet high, (the severest possible test) out of stones not larger than one or two inches in their greatest dimension. Thus the largest building operations can be effected by the utilization of what, so far as the small stones are concerned, is almost waste material. Indeed the growing use of concrete is the best possible illustration of what was previously said about the relative value, in a wall, of the mortar and the stones or bricks.



GROUND FLOOR PLAN OF THE \$7,400 CONCRETE COTTAGE SHOWN ABOVE
Sullivan W. Jones, Architect

Cement Age

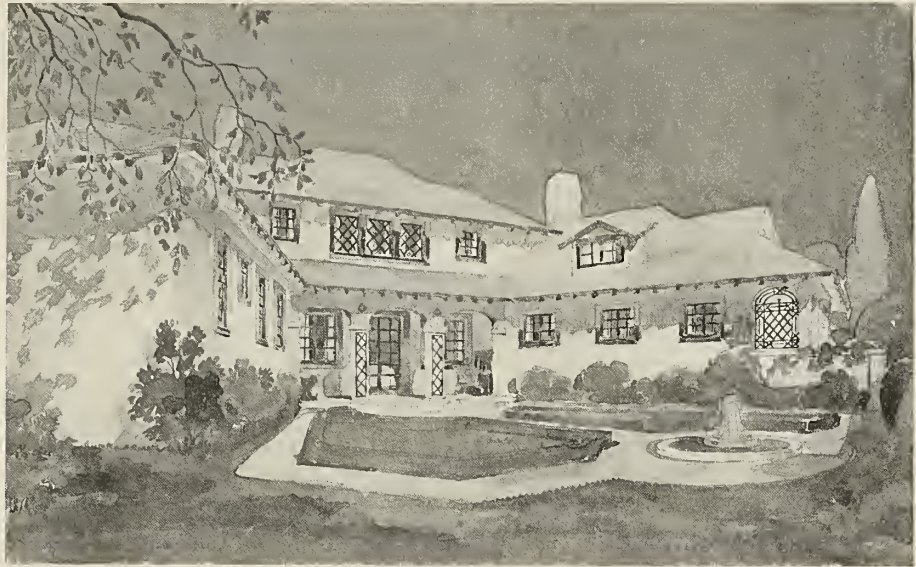
The Importance of Cement and Its Products in House Building

Making Concrete

To understand the peculiar value of concrete let us consider a simple case. If we make a wooden box without a top and fill it with a mixture of cement mortar and small stones, in the course of a day or two we may knock away the box and have a solid block of stone. The mixture went into the box wet, plastic and disintegrated and comes out, though not yet quite dry, hard, solid, and monolithic.

This peculiar quality of concrete, whereby it may be made in fragments and piecemeal so to speak, but hardens into a solid mass, gives it a field of application which is limited only by the wishes of the user. Let us see what use may be made of it in building a house.

In order that the house may stand upon a secure footing the lowest course of the wall is made wider than the wall above, and large stones are laid in a trench which has been dug to receive them below the level of the general cellar bottom. On these stones the wall is built, and the value of the footing course is practically destroyed if the stones composing it are not long enough to fill the trench completely from one side to the other. It is often impossible to meet this condition, and in such cases concrete offers a ready and economical substitute. It is mixed on a board platform, wheeled in barrows to the trenches, tipped in, rammed down, and left to harden. In twenty-four hours the wall may be started, and continued



GARDEN VIEW OF THE \$7,400 CONCRETE COTTAGE. *Cement Age.*
Sullivan W. Jones, Architect

without interruption to completion. Even where large stones may be had, concrete is often preferred by architects on account of its dependability. The usual formula for a concrete mixture is one part of concrete, three parts of sand, and five of small broken stone or gravel. This makes a concrete strong enough to stand the severest tests, yet it may readily be seen that the expense of the cement is inconsiderable. Concrete should be mixed as follows:

The cement and sand are first mixed dry, being turned over several times to ensure a thorough mixing, water is then added from a hose with a rose sprinkler attached to prevent the washing away of the cement, the stone or gravel is then added to the mortar, the mixture being thoroughly turned over at least three times to ensure the coating of each piece of stone with the mortar. This being done, the mixture is carried away to the trenches and deposited, as above described.

But concrete has in the past few years come into its own, as its possibilities have been recognized, until it is quite capable of replacing most, if not all of the more usual building materials. As an illustration, it is sufficient to quote, in addition to the dam above noticed, an office building of eighteen storeys which has been built entirely of concrete.

Concrete Houses The building of a house entirely of concrete, walls, partitions, floors and roof, is a simple matter. The walls are built very much as we made the concrete block in the wooden box. Boards are erected at a



SECOND FLOOR PLAN OF THE \$7,400 CONCRETE COTTAGE.

Sullivan W. Jones, Architect

Cement Age

House and Garden



\$3,900 CONCRETE COTTAGE NEAR NEW YORK
Sullivan W. Jones, Architect

Cement Age

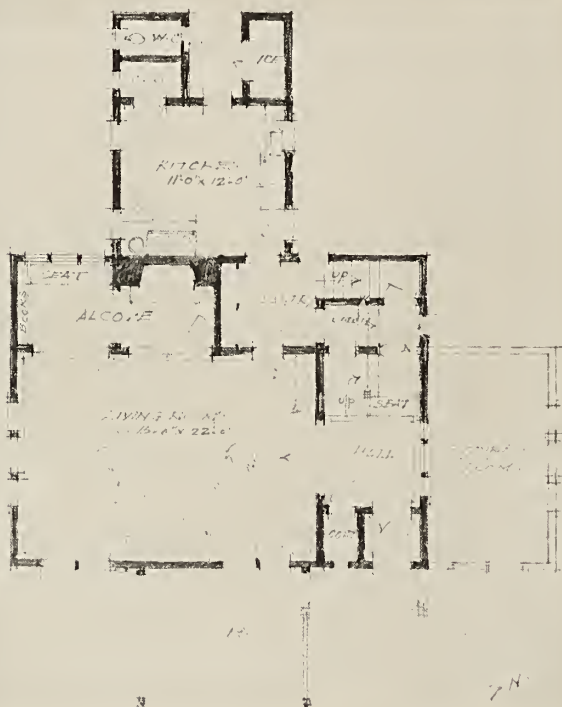
distance apart equal to the thickness of the wall about to be built, and concrete is dumped between them and rammed well into place. This process is continued all around the building and for all the cross partitions. After the walls are four or five feet high the boards are removed and replaced at a higher level and the process continued, until the desired height is reached.

Reinforced Concrete The process of building the floors and roofs is somewhat different. If these were built of plain concrete like the walls they

would have been heavier (because thicker) than is desirable. The walls, of course, are supported continuously throughout their entire length on the foundations. But the floors are supported continuously only at their edges. To overcome this difficulty a method known as "reinforced concrete" has been devised and has proved so successful in application that entire buildings are now so built; outside walls, and all. This method of strengthening or reinforcing the concrete is simplicity itself. Steel wire or thin rods, or still better steel frames are imbedded in the concrete which enormously increases its resistance to bending pressures (such as a floor is subjected to) at a very slight relative increase in the cost of erection.

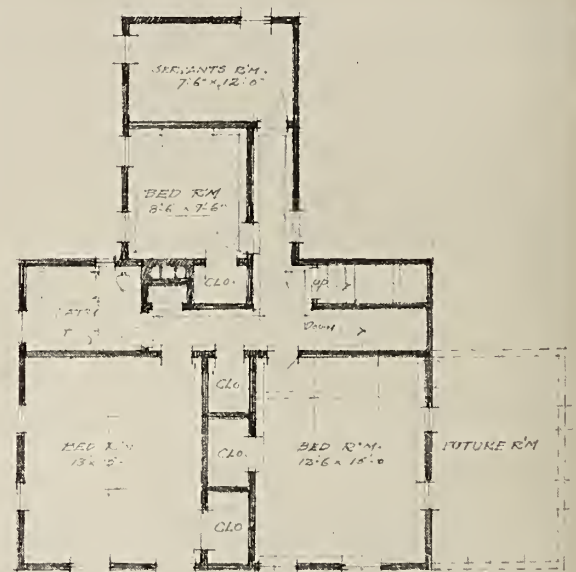
This great increase in strength makes it possible to build the concrete thinner than would otherwise be possible, and it is for this reason that walls of high concrete buildings are built by the reinforced process. So applicable indeed is this principle to the construction of concrete beams and posts, that it has been successfully employed for the purpose of erecting high office buildings, in which the usual steel beams and columns are entirely replaced by concrete substitutes.

Concrete Piling The latest application of this principle is its employment for piling in foundations. Each pile is made of reinforced concrete and



GROUND FLOOR PLAN OF \$3,900 CONCRETE COTTAGE
Sullivan W. Jones, Architect

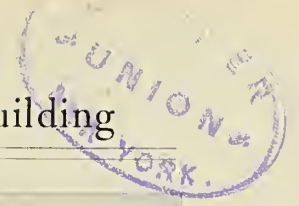
Cement Age



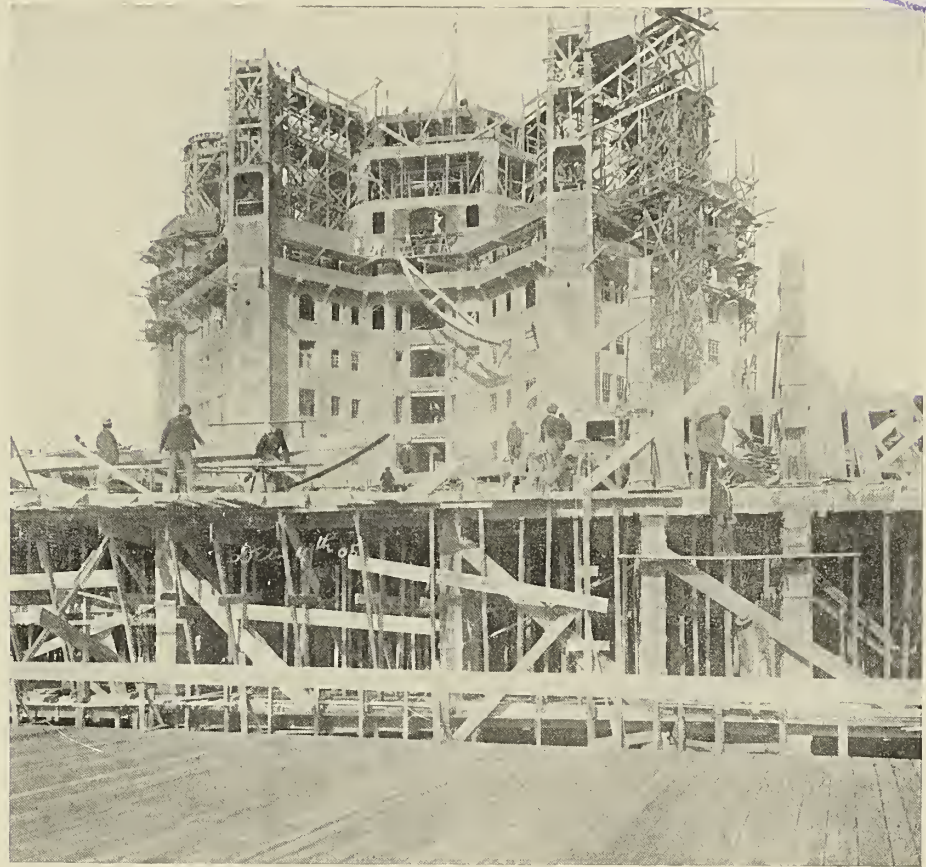
SECOND FLOOR PLAN OF \$3,900 CONCRETE COTTAGE
Sullivan W. Jones, Architect

Cement Age

The Importance of Cement and Its Products in House Building



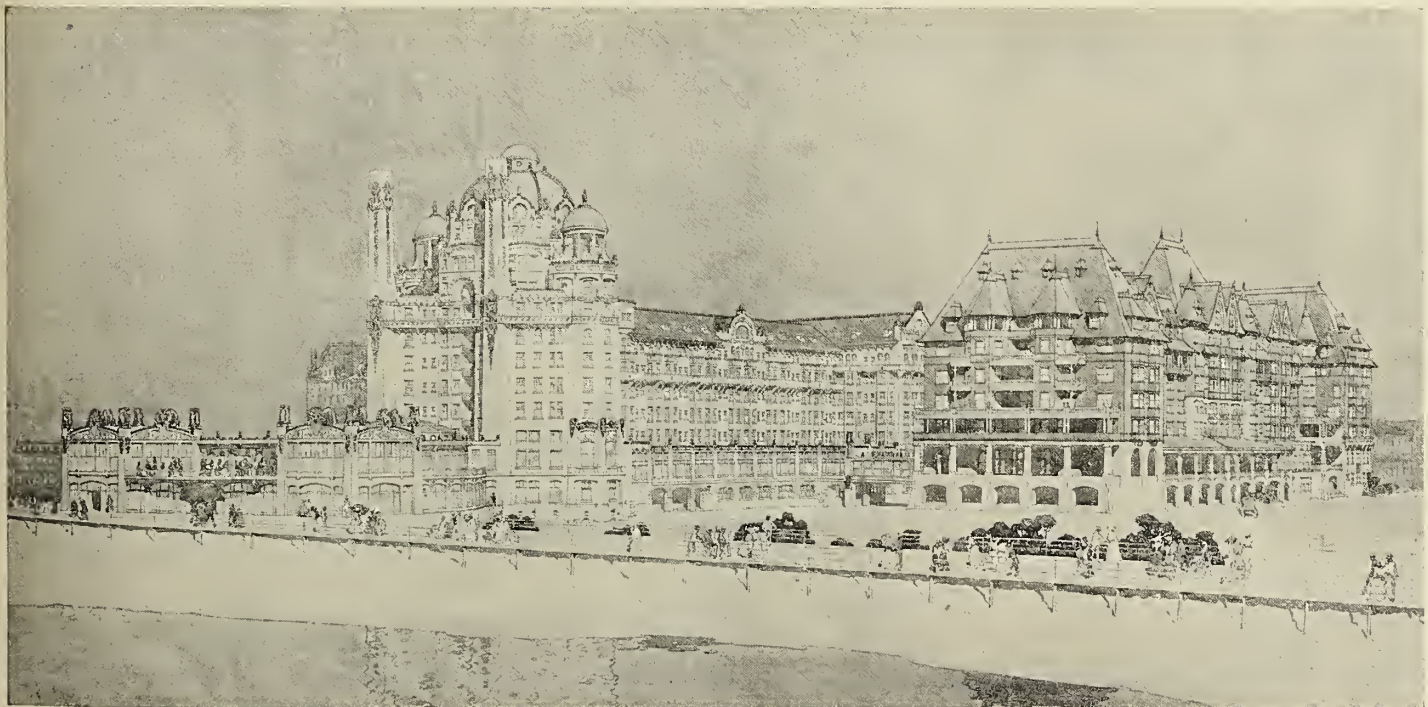
is put in place by one of three methods. First, a hollow steel form, sixteen inches in diameter and of the desired length, is driven by a pile driver and then is filled with concrete, which is rammed in the form in layers. The steel form is slowly withdrawn as the concrete pile takes shape. In the second and third methods the pile is made wholly above ground and sunk either in the usual way, by a pile driver, or by a water jet through a hole left in the centre of the pile. In the former method the pile is protected by a steel cap while being driven, while the latter is applicable only in sand or very soft ground. The first method is known as the "Simplex" process and five thousand, sixteen-inch piles from thirty to forty-five feet long were recently placed in position in a large operation in seventy-six days. The difference in the magnitude of the foundation work required by the old and the new methods is well illustrated by the sketch on page 244, and in the instance above referred to it was shown that the time saved in rental fully paid for the piling foundations.



PHOTOGRAPH OF THE BLENHEIM DURING ERECTION, SHOWING METHOD OF CONSTRUCTION

Cement Age

The strength of the simplex reinforced concrete piles is enormous.



GENERAL VIEW OF THE HOTEL BLENHEIM, ATLANTIC CITY. Price & McLanahan, Architects

Cement Age

The largest example of reinforced concrete architecture in America. This hotel represents the latest methods of concrete construction as adapted to the largest operations. All of the structural parts, such as columns, roofs, floors, girders, balconies, devices, are of reinforced concrete.

The exterior walls are of hollow tiles, plastered inside and out with cement mortar



THE APPLICATION OF CONCRETE TO BALUSTRADES, RAILINGS, ETC.
Cement Age

In a recent test at Pittsburgh five piles placed as a foundation for heavy machinery in the Westinghouse establishment, bore a load of three hundred tons without settlement. This is said to be the heaviest test load ever placed on piles of any kind.

The Great
Advantages
Of Concrete
Houses

To return, however, to our concrete house. When it is built as described it is practically monolithic. That is to say

it has no joints nor crevices, and is as continuously solid as if carved out of a single stone. A house built in the old way, however carefully, is apt to leak air about the windows and outside door frames.

This condition becomes aggravated of course during high, cold, winds. In the concrete house, the window and door frames are placed in position before the concrete and the concrete packs tightly around them closing all possible sources of leakage from that direction.

The concrete house, too, is vermin proof, as there are no accessible hollow spaces in the walls, and, above all it is fire-proof. It is this latter, absolutely. You could no more burn a concrete house than you could kindle a fire with a block of granite, and if the draperies or other inflammable stuff in

any room should, by mischance get ablaze, it would be extremely easy to confine the fire to the place where it originated.

Then again a concrete house is sound-proof. No noise is conveyed through floors or partitions. It is worth while to note that space may be saved in partitions by stretching wire on steel uprights and



CONCRETE BALUSTER IN A PHILADELPHIA BRIDGE, SHOWING ROUGHENED SURFACE, SOMEWHAT LIKE PEBBLE DASHING



CONCRETE BRIDGE OVER POQUESSING CREEK, PHILADELPHIA. THIS BRIDGE HAS A SPAN 71 FEET WIDE, WITH A RISE OF 9½ FEET
Cement Age

The Importance of Cement and Its Products in House Building

plastering on the wire. The resulting partition is less than two inches thick. And as to durability, if concrete construction has a fault it is just here. Any one who has noticed workmen attempting to cut a hole through a concrete wall, or a well laid concrete sidewalk needs no further evidence as to durability or the difficulty of tearing down or extensively altering a concrete structure.

The exterior of a concrete house may receive either one of two treatments. The surface, after the removal of the boards, is somewhat rough and of an irregular or patchy color. This is unavoidable. But it may easily be overcome either by coloring the surface uniformly with water paints, or by having a stone cutter go over it with a tool known as a pick. This works off the discoloring skim coat and leaves an effect very similar to that of a pebble dashed wall. This effect is well shown in the illustration of the concrete baluster on page 242.

The interior walls of the house may be finished in the usual manner with plaster, and receive wooden wainscoting, marble linings, stamped leathers, paint or paper, or any other decorative treatment desired.

The roof is usually covered with tiles, though slate, or any other covering may be used.

Finally, concrete houses are dry, warm in winter, and cool in summer, and wholly unaffected by the weather in general.

Garden Accessories Just as concrete, either plain or reinforced, lends itself to all demands of the



CONCRETE WORK ON THE FARM

Atlas Portland Cement Company

house structure, so its use has rapidly extended to the minor accessories of the garden. Seats and fountains, terraces and steps, sun-dials, benches, gate posts, fences, and any other feature needed may be readily built of it. It lends itself sympathetically to every demand for picturesqueness, and is especially adapted to bridge work.

Farm Buildings

For farm buildings concrete seems almost an ideal material. The only expert labor needed is a foreman, as any unskilled laborer can, under such direction, mix the concrete and put it in place.

A Caution

While cement walls may readily be built as above described, it is very important that the work of building the floors and the roof should be placed in the hands of expert builders.

There are several companies undertaking this work with offices in all parts of the country, and their prices are very reasonable.

Relative Cost

I have been assured by a very competent firm who do a great deal of such work that the cost of concrete construction for houses need not exceed by more than fifteen per cent the cost of the same house if built of wood throughout, and in not a few instances, where the conditions have been favorable, the cost has actually been less than for frame construction.

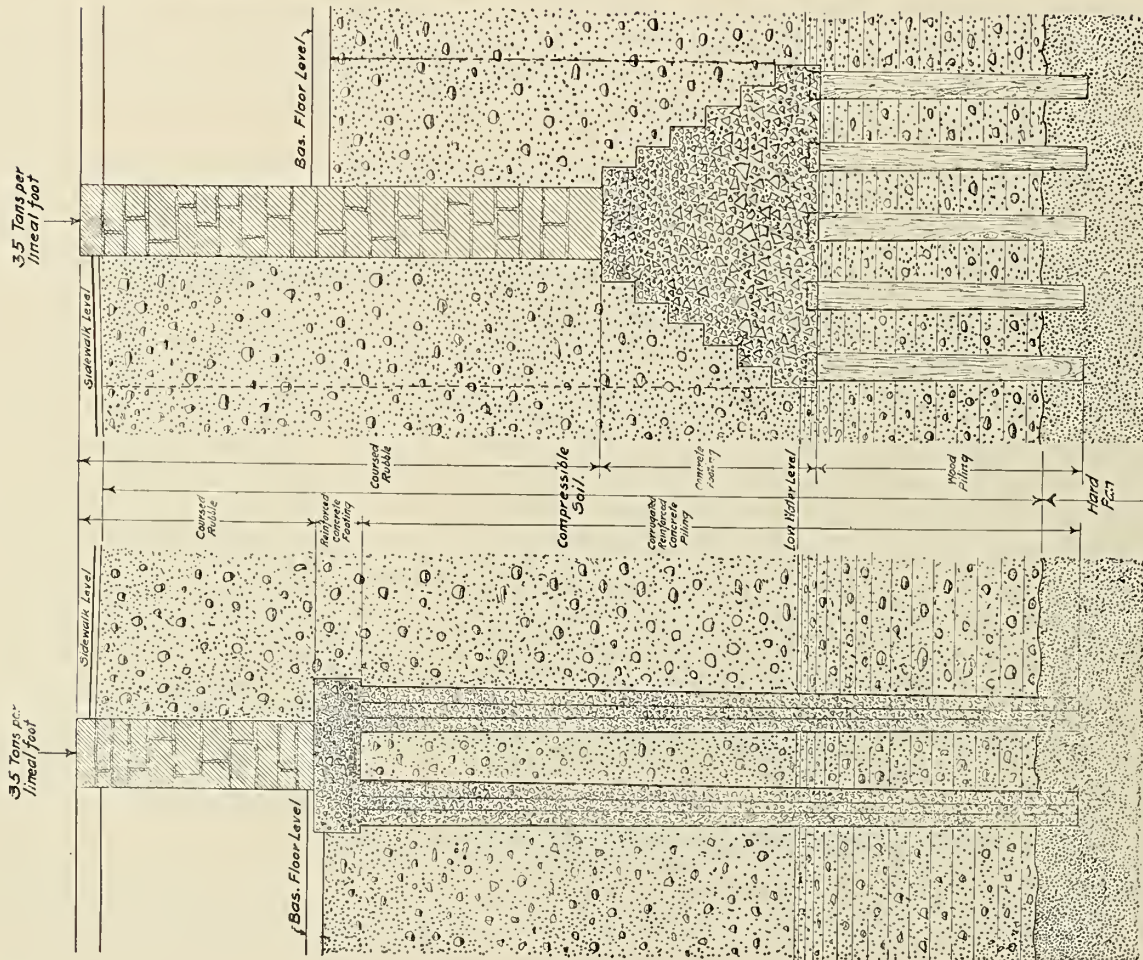
Cinder Concrete

The house shown on page 238 is noted as built of cinder concrete. This is a term used to denote a concrete in



INTERIOR OF A CONCRETE STABLE

Turner Construction Co.



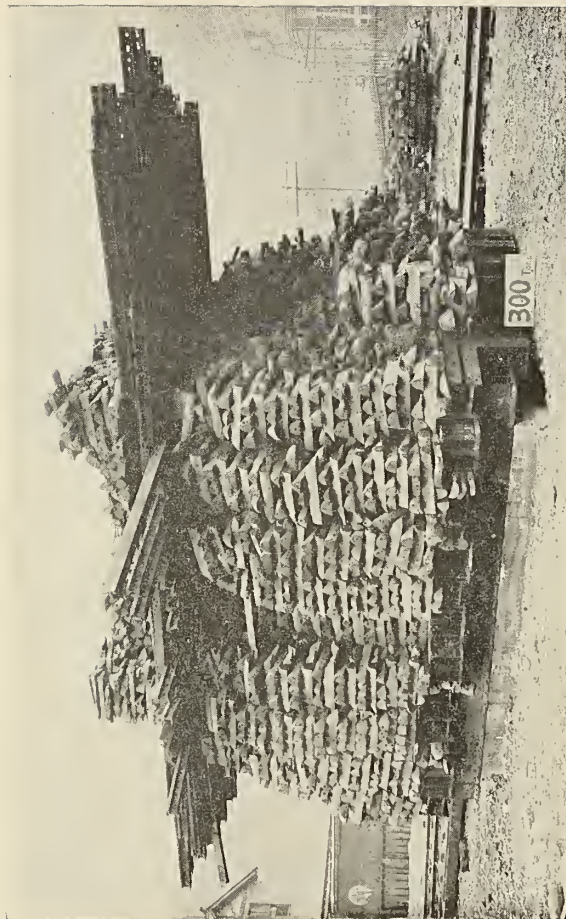
Corrugated Reinforced Concrete Piling

Wood Piling

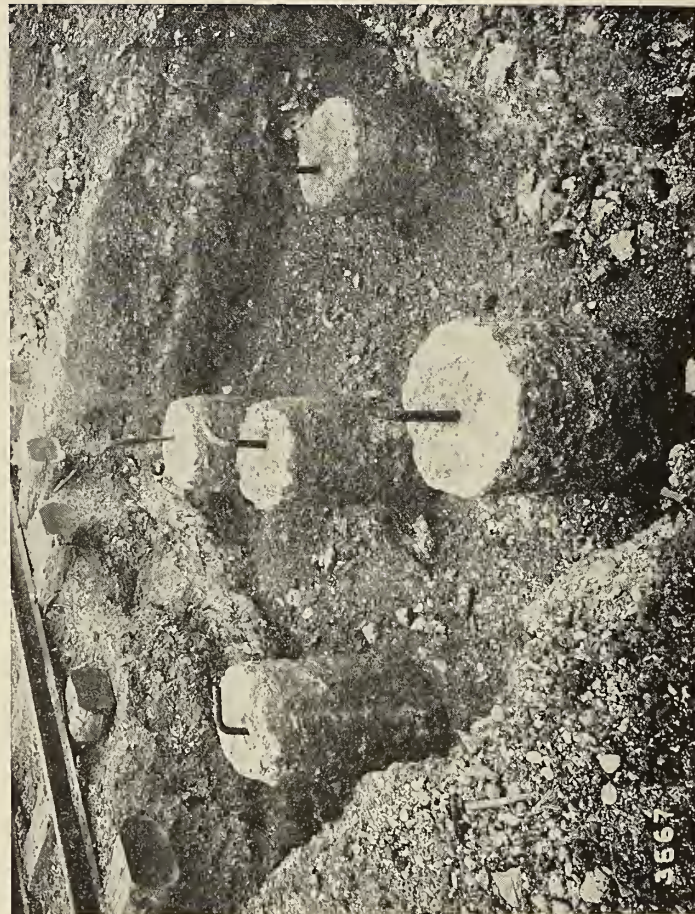
FOUNDATION

Sketch showing the great advantage in economy, both of time and material, gained by the use of concrete piles over wooden ones

G. M. Allen



Test load of 300 tons on five concrete piles, Westinghouse Works, Pittsburgh. This is the heaviest test load ever placed on piles of any kind, and was carried by the piles without difficulty

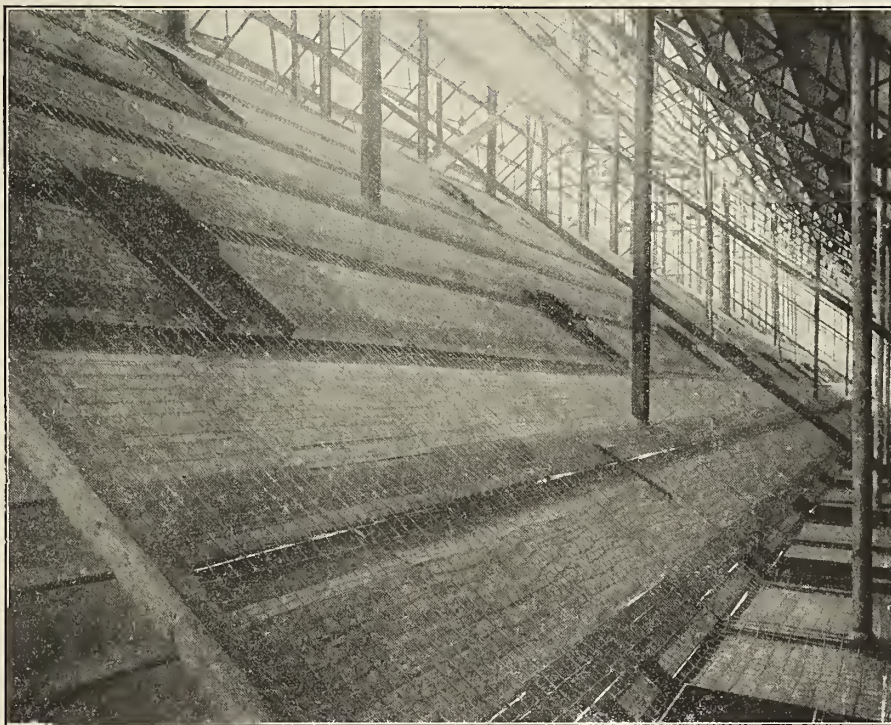


The five piles which bore the test shown above. This photograph shows the piles ready for the concrete "cap," upon which the load rests

The Importance of Cement and Its Products in House Building

which the more usual material, stone, is replaced by cinders. As cinders are, of course, cheaper than stone the cost is lessened, and as they are the lighter material there is a gain in that direction also. Cinder concrete, however, has its limitations. In the first place it is much less strong than stone concrete, and can never be used for any portion of the structure that is not entirely self-supported. It will do well for walls of cottages or as a filling over floors which are otherwise abundantly strong to carry themselves. But it should never be used for the primary floor material, which, as we have seen, must always be of reinforced stone concrete.

Damp Resistance Concrete, while very resistant to dampness is not absolutely waterproof and it is usual either to line outside walls with hollow tile made for the purpose, or what is quite as effective and more economical, wooden strips are inserted in the concrete which, being withdrawn before it has become thoroughly hardened, leave a series of hollow flue-like spaces in the walls near the inner surface which keep the interior always thoroughly dry.



WIRE CLOTH IN PLACE READY FOR THE CONCRETE
Interior of Government Coal Pockets, Bradford, R. I.
Clinton Wire Cloth Co.

A Concrete Style

There is one phase of monolithic concrete house building which should not be overlooked. Like all other building materials, concrete has a distinctive character and distinctive qualities of its own, and if these are not regarded in the design, artistic failure is certain to result. It is not possible for instance to copy successfully in concrete a design which has been made for execution in carved stone or molded brick. Fine moldings cannot be run in concrete, nor ornamental foliage. To be successful, broad effects, after the Spanish manner, only should be attempted. In other words concrete should be used in its own way and for its own admirable ends and not tortured into masquerading in the disguise of something else.

I desire to record my obligations to the American Cement Co., to the Atlas Cement Co., to the American Cement Co., to the Hayden Automatic and Equipment Co., to the editors and publishers of *The Cement Age*, and to the Clinton Wire Cloth Co., of Clinton, Mass. for valuable data used in the preparation of this article.



THE FINISHED SURFACE OF THE COAL POCKET AFTER THE WIRE CLOTH IS EMBEDDED IN THE CONCRETE
Clinton Wire Cloth Co.

GARDEN WORK IN MAY

BY ERNEST HEMMING

ALL danger from frost being over, the most important work in May will be the planning and planting of what are known as the summer bedding plants. Where a mass of continuous bloom is wanted, there is nothing quite the equal of this class of plants: geraniums, cannas, lantanas, petunias, verbenas, and heliotropes being the most popular. Then there are the coleus, crotons, alternanthera etc., for foliage effects, and cannas, grasses, elephant's ears, castor oil plants, palms, dracaenas and such like for sub-tropical effects. Many annuals like the nasturtium, ageratum, scarlet sage, and alyssum, may be used to advantage in combination with them.

In preparing a bed that is isolated on the lawn, dig it deeply and work in some well rotted manure; to look well such a bed should be slightly raised in the centre and the surface made a nice contour before planting, this will cause the centre plants to be slightly raised and give the whole a better appearance. Borders against a wall or other background should be slightly raised at the back, for the same reason.

The lawn now requires to be mown weekly, if not oftener, to keep it in good shape. The customary way is to run the machine over it raking up the grass after it is done. A better way is to have a box or some arrangement attached to the machine to catch it, it will save raking and is better for the lawn. Rolling after a rain will do much towards producing a nice level turf.

Shrubbery should be looking at its best as the majority of shrubs flower this month so there is not much to do among them except to keep tidy and enjoy them. A little time spent among them observing their habits of flowering will be very useful and prevent errors in pruning another season, also to learn the names of the most desirable in other gardens to be procured when the proper planting season arrives. There is nothing more lovely than the flowering peaches, cherries and crabs. While the bloom is rather transient, a place should be found for *Pyrus Ioensis*, *Pyrus coronaria*, *Prunus triloba* and the Japanese weeping cherry, *Cerasus pendula, rosea*.

If the weather is at all moist, this is an excellent time to transplant evergreens, as they may be moved much later than deciduous trees and shrubs. This class of plants usually has a formal habit of growth and always matures into fine specimens when their symmetry is not spoilt by crowding. To move an evergreen, first tie up all the branches so they will not get broken or be in the way, then dig a trench around the tree keeping two or three feet away according to the size of the tree, when down to a depth of two feet reduce the ball of earth to a convenient size for hand-

ling, preserving all the roots possible. The aim is to keep as much soil on the roots as possible. Have a hole dug ready for its reception, carefully gaging the proper depth; when placed in the hole, ram the soil firmly around it. If manure is used see that it is well rotted. Should dry weather succeed the operation, an occasional watering will be beneficial.

It is now almost too late to move deciduous trees and shrubs, but should it be necessary, prune them sharply, reducing the branches fully one third, and spray them in the evenings to prevent the wood from shrivelling until the roots become active in their new quarters.

In the flower garden almost all kinds of seeds may be sown and all kinds of planting finished up except in those localities where there is still danger of frost. Do not allow the sweet peas to fall down for the want of support, they will never be quite so good as when trained straight up without a check. When they are about six inches high they will be benefited by being earthed up. It is a very common error to sow seed too thick. Where the seedlings are coming up too thick thin out freely, it is better to have one good plant than a dozen weaklings. A moist dull day should be chosen for transplanting and each plant lifted with a little earth if possible.

Hoe, hoe, and hoe again is the rule for the vegetable garden, even when apparently unnecessary it is never a waste of energy, the ground being kept in a nice loosened condition prevents much suffering during dry weather.

Carrots, turnips, parsnips, onions, beets and such like should be thinned out just as soon as they can be handled, six inches apart should be the minimum distance, if good large roots are wanted. Sow corn every two weeks to insure a continuous supply. Those not acquainted with the merits of the different varieties should try the "Country Gentleman."

Set the poles in place and sow lima beans. Transplant tomatoes, cabbage, cauliflower, brussels sprouts, lettuce, choosing a dull day if possible. Sow self blanching celery in shallow boxes or a specially prepared bed of rich earth, so as to have good strong plants ready to plant in the trenches at the proper season. Some of the early crops such as potatoes, peas and French beans will have been harvested by the time the celery has to be planted in the trenches, and the ground will be free for this purpose. Arrange if possible to plant celery where the soil is moist and deep. Cucumbers, melons, and squash like rich, light, well-drained soil. If the ground is inclined to be wet and heavy plant the seed in ridges or hills and keep the soil constantly stirred with the hoe.

NORWOOD PARK

ESTATE OF MR. MURRY GUGGENHEIM, WEST END, NEW JERSEY

WADLEY & SMYTHE, Landscape Contractors. CARRÈRE & HASTINGS, Architects

WHEN one considers the enormous planting operations involved, the extensive grading, the construction of roads, terraces and walks, the well appointed Italian garden, all skilfully combined to give the place the effect of an old estate, it is astonishing to learn that this operation was created in its entirety in less than seven months.

The accompanying views tell the story of the result better than words and the briefest explanation will suffice.

On the front of the house, facing the north, is the large Italian garden, blooming with the choicest hardy perennials from early summer till late autumn, its beautiful fountain and miniature lake filled with choice aquatics. The marble statuary representing the four seasons; with the wide borders of heavy English ivy make a finish rich in form and foliage.

Opening upon the spacious library on the south entrance of the residence is a broad extensive terrace. This terrace being on the south side is in a very favorable situation and our illustrations show how successfully the various features have been utilized. Long avenues of large orange trees richly laden with fruit extend over the length of it; and

stately groups of pyramidal bay trees are placed about in effective places, giving this view a very realistic tropical air. Groups of pink and white water lilies and the deep blue water hyacinth dot the surface of the lake and add to the charming scene.

From this same side, looking through the belvederes we obtain an exquisite view of the rose gardens where thousands of roses bloom, in choicest and rarest varieties obtained from all countries, from the hardiest and most vigorous hybrids to the dainty "tea," pleasing the eye with the arrangement of their perfect scheme of color and filling the air with delightful fragrance. The "Rose-walk" is a pleasant retreat on a hot summer's day and leads down to the rose garden.

Here and there we get glimpses of vine-covered pagodas, large groups of variegated foliaged evergreens, massive clumps of rhododendrons whose lustrous leaves remain beautiful all the year round after the magnificent flower masses are gone; and large beds of the hardy mountain azalea, lead into the avenue of old trees which form the long driveway entrance.



NORWOOD PARK—THE HOUSE FROM THE LAKE



NORWOOD PARK—THE TERRACE



NORWOOD PARK—UPPER VIEW OF THE TERRACE



NORWOOD PARK—THE ENTRANCE FRONT



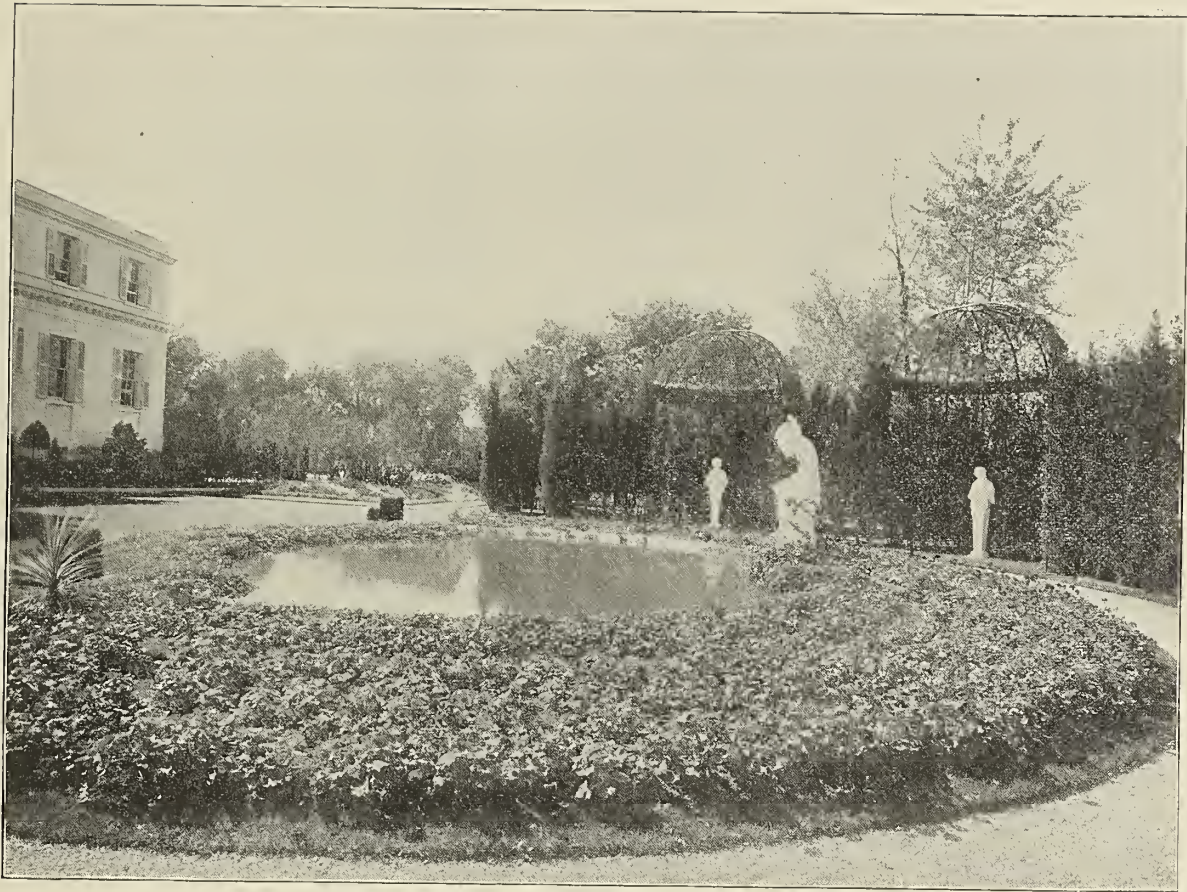
NORWOOD PARK—THE LAKE FROM THE TERRACE



NORWOOD PARK—A CORNER OF THE ITALIAN GARDEN



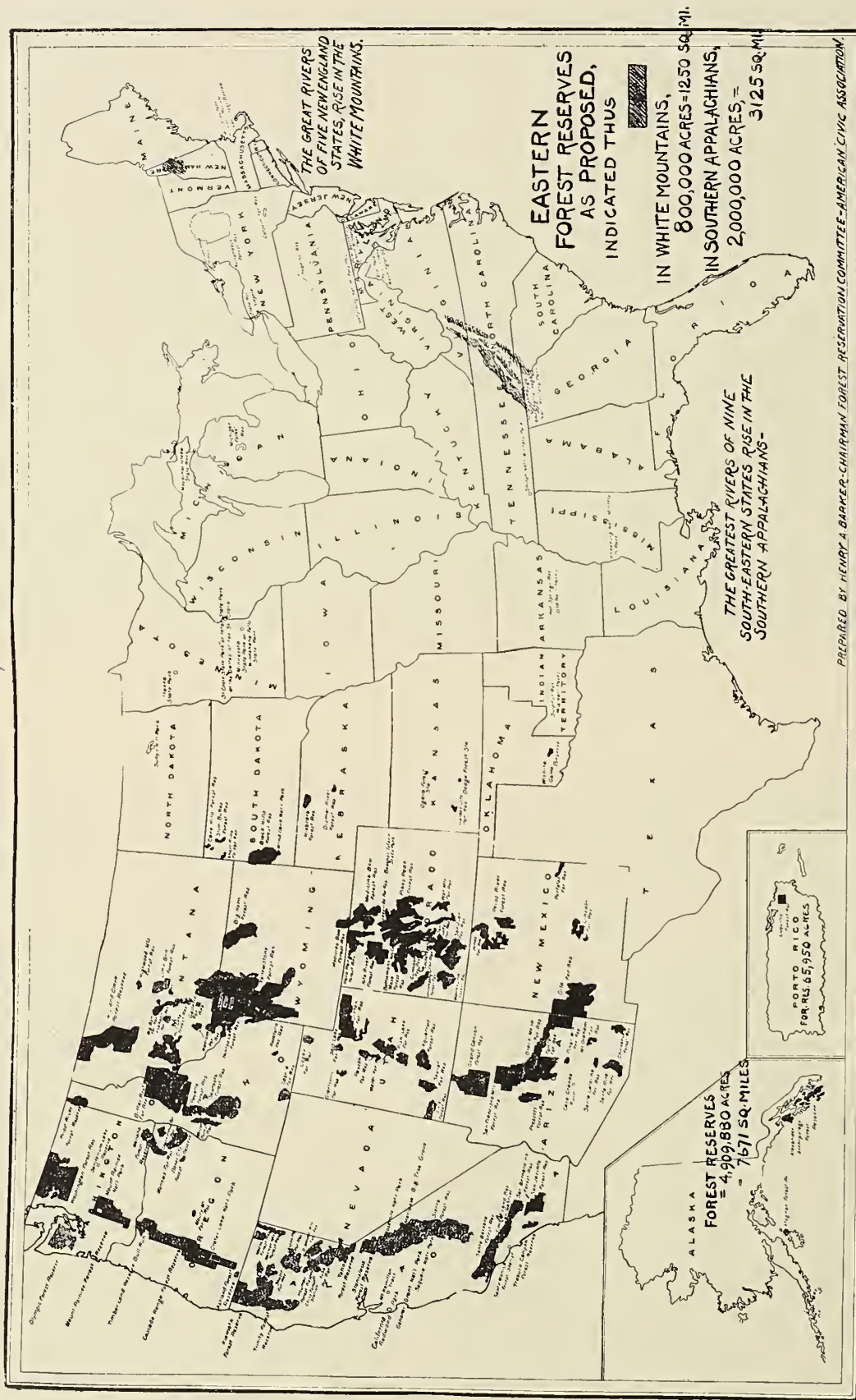
NORWOOD PARK—THE APPROACH TO THE HOUSE



NORWOOD PARK—THE FOUR SEASONS



NORWOOD PARK—THE ENTRANCE GATES



A GRAPHIC MAP SHOWING THE PREPONDERANCE OF FOREST RESERVATION IN THE WEST
AND THE MODEST DEMANDS OF THE EASTERN SEABOARD

FOREST SERVICE, U.S. DEPT. OF AGRICULTURE, NOV. 11, 1905

Republished by courtesy of Providence Journal

CIVIC IMPROVEMENT NOTES

WAKING UP TO FOREST NEEDS

MR. Henry A. Barker of Rhode Island, who, as Secretary of the Metropolitan Park Commission of Greater Providence, has done so much to create a desire in Providence and the surrounding districts for an attractive environment is actively pushing the important project of an Atlantic Slope Forest Reservation.

A few days ago the Board of Trade of Providence passed a resolution earnestly favoring the enactment of such legislation by Congress as shall be needed to secure a national forest reservation in the White Mountains, and urging the Rhode Island delegation at Washington to lend their assistance toward the accomplishment of this purpose.

These New Hampshire forests have a considerable influence over the climate of all New England. They also make the White Mountains attractive as a summer resort; if they were cut down, the barren heights would be uninviting to tourists. Rhode Islanders in great numbers make annual visits to this delightful region, and thus any serious damage done to it would be a personal loss to them. Besides, considerable property there is owned by residents of Rhode Island. Upon the White Mountains much of the best timber to be found in New England is now growing, but if the present rate at which it is being cut continues, it will not be many years before nearly all that is of any commercial value will have been disposed of. If for no other reason than a desire to prevent the home supply of lumber from being exhausted, New Englanders who have occasion to use it should favor the establishment of a national reserve in the White Mountains. The adoption of scientific methods of forestry, which would come with Government control, would in the end mean less expensive materials for all the builders in this part of the country.

In one great service which the White Mountain forests perform for New England, Rhode Island is the only State in the group that is not directly interested. They form the storage reservoirs for great rivers that run into or along the border line of all the others. The Androscoggin and the Saco, which drain the whole southwestern part of Maine, are fed from the great New Hampshire forests. The Connecticut River, rising among them forms the border line between New Hampshire and Vermont for the entire length of these States and then enters Massachusetts to flow through such large and important manufacturing cities as Springfield and Holyoke, and later to run the width of Connecticut, not only supplying a vast amount of water power, but providing from Hartford to the Sound a highway for commerce.

Mr. Barker wrote to the City Engineer of Hartford not long ago, asking that official if the destruction of so many acres of the forest area of the White Mountains was not having an injurious effect upon the vol-

ume of water in the river at Hartford. The engineer replied that he had never given the matter much consideration, but he would make an investigation. As a result of his inquiries he found that there was a direct connection between the destruction of wooded districts in the New Hampshire mountains and the supply of water in the Connecticut at Hartford. The Board of Trade of the city took the matter up when this was discovered, urging the State representatives in Washington to do their utmost to see that the Government take charge of the White Mountain forests.

Senator Frank B. Brandegee of New London, Conn., is Chairman of the national committee on forest reservations, and he has received a vast number of letters favoring the plan to place the Government in charge of the timber sections in the White Mountains and also in the Appalachians. In aid of the more southern enterprise a bushel and a half of communications has reached him.

A glance at the accompanying map is sufficient to emphasize the great need of forest reservations in this part of the country. The black sections, showing the extent of these reserves, cover a large part of the Rocky Mountains, include national parks and occupy many other regions of a greater area than Rhode Island. Thus the West is assured of a large lumber supply for centuries to come. East of the Mississippi the map does not show even one dark section. New York has set aside vast tracks of the Adirondacks for a forest reserve of its own, and Pennsylvania has made several slight but encouraging efforts to a similar end, but throughout this wealthy and populous division of the nation the Government has done nothing toward protecting the fast disappearing forests.

The West already has 92,741,030 acres, or 144,908 square miles, in national forest reserves. Only 2,800,000 acres are asked for in the East, 800,000 acres, or 1250 square miles in the White Mountains and 2,000,000 acres, or 3125 square miles in the Southern Appalachians.

Valuable timber for building purposes, to put the question in the form of dollars and cents, is rapidly disappearing from the East, and if reservations are not established in the near future most of the lumber for this section of the country will have to be imported from the West.

It is here in the East also that the water power furnished by rivers is most widely used in manufactures. As forests act as storage reservoirs their destruction will greatly diminish the value of mill streams permitting dangerous freshets in the spring and extremely low water in times of drought. For this reason the protection of many millions of dollars worth of manufacturing enterprises depends upon the preservation of the wooded region in this thickly settled region east of the Mississippi.

House and Garden

The need of establishing a national forest reserve in the Southern Appalachians has recently been investigated with great care by the Department of Agriculture. As a result, official statements to this effect have been made. This region contains the highest peaks and largest mountain masses east of the Rockies. It is the great physiographic feature of the eastern half of the continent, and no such lofty mountains are covered with hardwood forests in all North America. Upon these mountains descends the heaviest rainfall of the United States, except that of the North Pacific coast. It is often of extreme violence, as much as eight inches having fallen in 11 hours, 31 inches in one month, and 105 inches in a year. The tree roots, mosses, underbrush and plants break the fall of rain drops, draw them into little reservoirs and give them out months later in the form of springs. Without the protection of forests the rain would tear up the soil and rush into the rivers where it would cause great freshets. In the season of drought even large streams would entirely dry up.

The soil, once denuded of its forests and swept by torrential rains, rapidly loses first its humus and then its rich upper strata, and finally is washed in enormous volume into the streams, to bury such of the fertile lowlands as are not eroded by the floods, to obstruct the rivers, and to fill up the harbors on the coast. More good soil is now washed from these cleared mountain-side fields during a single heavy rain than during centuries under forest cover.

The rivers which originate in the southern Appalachians flow into or along the edges of every State from Ohio to the Gulf, and from the Atlantic to the Mississippi. Along their courses are agricultural, water power and navigation interests, whose preservation is absolutely essential to the well-being of the nation.

Probably no region in the United States is better watered or better drained than this: nor is there any other region which can boast of being the source of so many streams. From about its northern end the New River (Kanawha) flows northward and westward and becomes a prominent tributary of the Ohio. Along its southeastern front the James, the Roanoke, the Yadkin, the Catawba, the Broad and the Savannah reach the Atlantic. Near its southern end the Chattahoochee and the Alabama flow directly into the Gulf of Mexico. Along its western the Hiawassee, the Tuckaseegee, the French Broad, the Nolachucky, the Watauga and the Holston drain westward through the Tennessee into the Mississippi.

The regulation of the flow of these rivers can be accomplished only by the conservation of the forests.

These are the heaviest and most beautiful hardwood forests of the continent. In them species from East and West, from North and South, mingle in a growth of unparalleled richness and variety. They contain many species of the first commercial value and furnish important supplies which cannot be obtained from any other region.

For economic reasons the preservation of these forests is imperative. Their existence in good condition is essential to the prosperity of the lowlands through which their waters run. Maintained in productive condition they will supply indispensable materials which must fail without them. Their management, under practical and conservative forestry will sustain and increase the resources of this region and of the nation at large, will serve as an invaluable object lesson in the advantages and practicability of forest preservation by use, and will soon be self-supporting from the sale of timber.

The agricultural resources of the Southern Appalachian region must be protected and preserved. To that end the preservation of the forests is an indispensable condition which will lead not to the reduction but to the increase of the yield of agricultural products.

The floods in these mountain-born streams, if this forest destruction continues, will increase in frequency and violence and in the extent of their damages, both within this region and across the bordering States. The extent of these damages, like those from the washing of the mountain fields and roads, cannot be estimated with perfect accuracy, but during the present year alone the total has approximated \$10,000,000, a sum sufficient to purchase the entire area recommended for the proposed reserve. But this loss cannot be estimated in money value alone. Its continuance means the early destruction of conditions most valuable to the nation and which neither skill nor wealth can restore.

The preservation of the forests, of the streams, and of the agricultural interests here described can be successfully accomplished only by the purchase and creation of a national forest reserve. The States of the Southern Appalachian region own little or no land, and their revenues are inadequate to carry out this plan. Federal action is obviously necessary, is fully justified by reasons of public necessity and may be expected to have most fortunate results.

HOUSE AND GARDEN CORRESPONDENCE

SUGGESTIONS FOR A BUILT-IN CORNER SEAT

Mrs. F. G. E. asks:

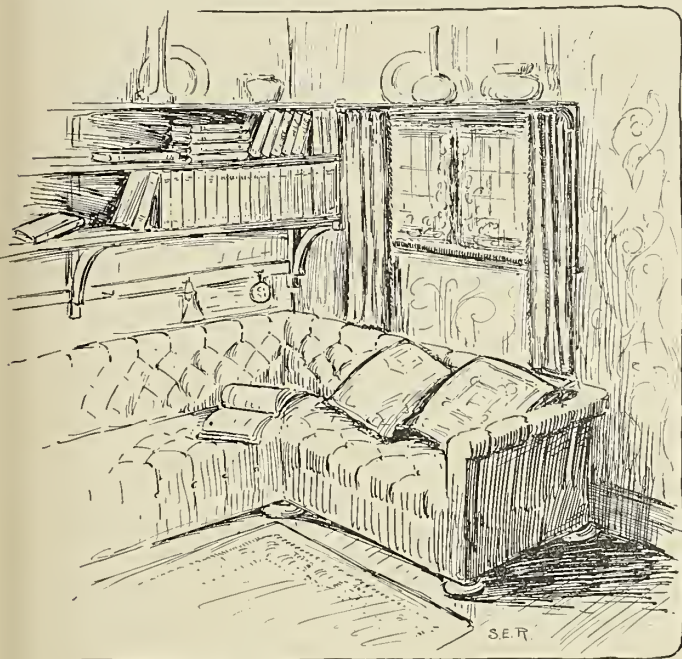
Will you give me a suggestion for a built-in corner seat in the living-room which is to be also used as a library. The standing wood work which is of chestnut has been treated with a dark greenish brown stain known as bog oak; this has a perfectly flat finish. I wish the seat to be of chestnut also, if it is necessary to have the wood show and I will have it stained and finished in the same manner. I also wish to have it cushioned and comfortable.

The room has a southern and eastern exposure. Perhaps it will be well to build some book shelves at the end of the seat if this will be practical. The walls will be covered with tapestry paper, like the sample I send you, showing green and brown on a tan color ground.

You will see from the sketch which I send you that there is a small casement window with square panes on one side near the corner where the seat will be.

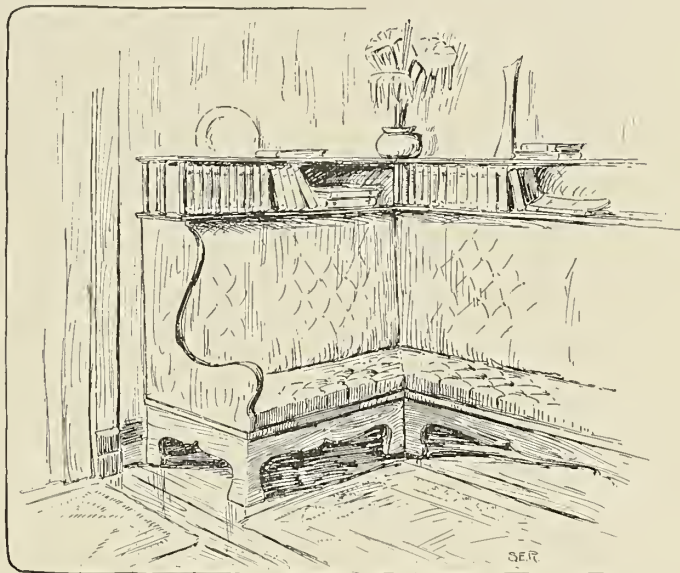
I would like a suggestion for the draperies to use in this room.

The ceiling is tinted to the picture rail but the color is not at all satisfactory as it is a pale greenish blue, what can I do about it? I do not feel sure of the color that would improve this. Also, would you use curtains to the floor or to the sill.



CORNER SEAT IN LIVING-ROOM

I am publishing two sketches with suggestions for the seat which you desire; one of these shows the wood and is upholstered on back and seat; the other is entirely upholstered. Both have hook shelves built within easy reach and these can be made quite a decorative feature of the room. In one sketch I have shown the window; this can have plain net or figured lace net drapery to the sill, and heavy draperies falling from the shelf above to the floor. The seat of chestnut, however, will be my choice for this room; this to be upholstered on back and seat and caught in with buttons; the fabric used to be green cut velvet. This velvet can be had in a shade which will harmonize perfectly with the green in your wall paper. The same material should be used for the heavy over draperies at your windows, and for door curtains; the price of this is \$2. a yard, and it is fifty inches wide. This fabric is particularly fitted for upholstering as it wears extremely well.



ANOTHER SUGGESTION FOR A CORNER SEAT

By introducing these plain masses of color in your room, with its decidedly figured wall paper, you will obtain a much more restful effect than by any other treatment. The ceiling should be tinted the shade of tan or *café au lait* shown in the background of paper. The warmth of color the room may require can be brought out in the bindings of books, and the rich crimsons of Oriental rugs which you should use.—MARGARET GREENLEAF.

UNFINISHED FURNITURE

Miss H. of Philadelphia, writes:

I am anxious to obtain the address of the dealer carrying the unfinished furniture of which you speak in some of your recent articles.

It will give me much pleasure to supply you this address if you will send me your own. It is not possible to mention the names of firms in these columns. I will be pleased to send this to you immediately upon receipt of a self-addressed envelope. This will also apply to H. L. of Conn. and "A Man."—MARGARET GREENLEAF.

ROSA SPINOSISSIMA

Unusual interest has been awakened among our readers by Mr. Egan's article on the above rose. The two following inquiries are typical and we have asked Mr. Egan to supply the information desired, which is printed below.

I was much interested in your photo and description of *Rosa Spinosissima* in March number of "House and Garden"; and have been vainly looking through all the nursery catalogues, I could lay my hands on, for it.

If you would inform me where this rose can be bought I would deem it a favor.
C. L. R.

I notice that you have recommended the rose *Spinosissima Alba*, var. *Altaica* a number of times, as a desirable substitute for the tender Cherokee. We are very anxious to secure the



ROSA SPINOSISSIMA, EGANDALE, 1905

name, and have written to the leading rose growers within our knowledge, but have failed to secure any trace of the rose. We have a fine hardy garden, but have to contend in our location with great ignorance of hardy plants. The florists claim that there is not sufficient demand to justify the time and care for their propagation. If you could give me the address of any firm where I could secure this rose, I would deeply appreciate it. I know that you must be a busy man and are no doubt much annoyed by similar requests, but we would deeply appreciate the courtesy.

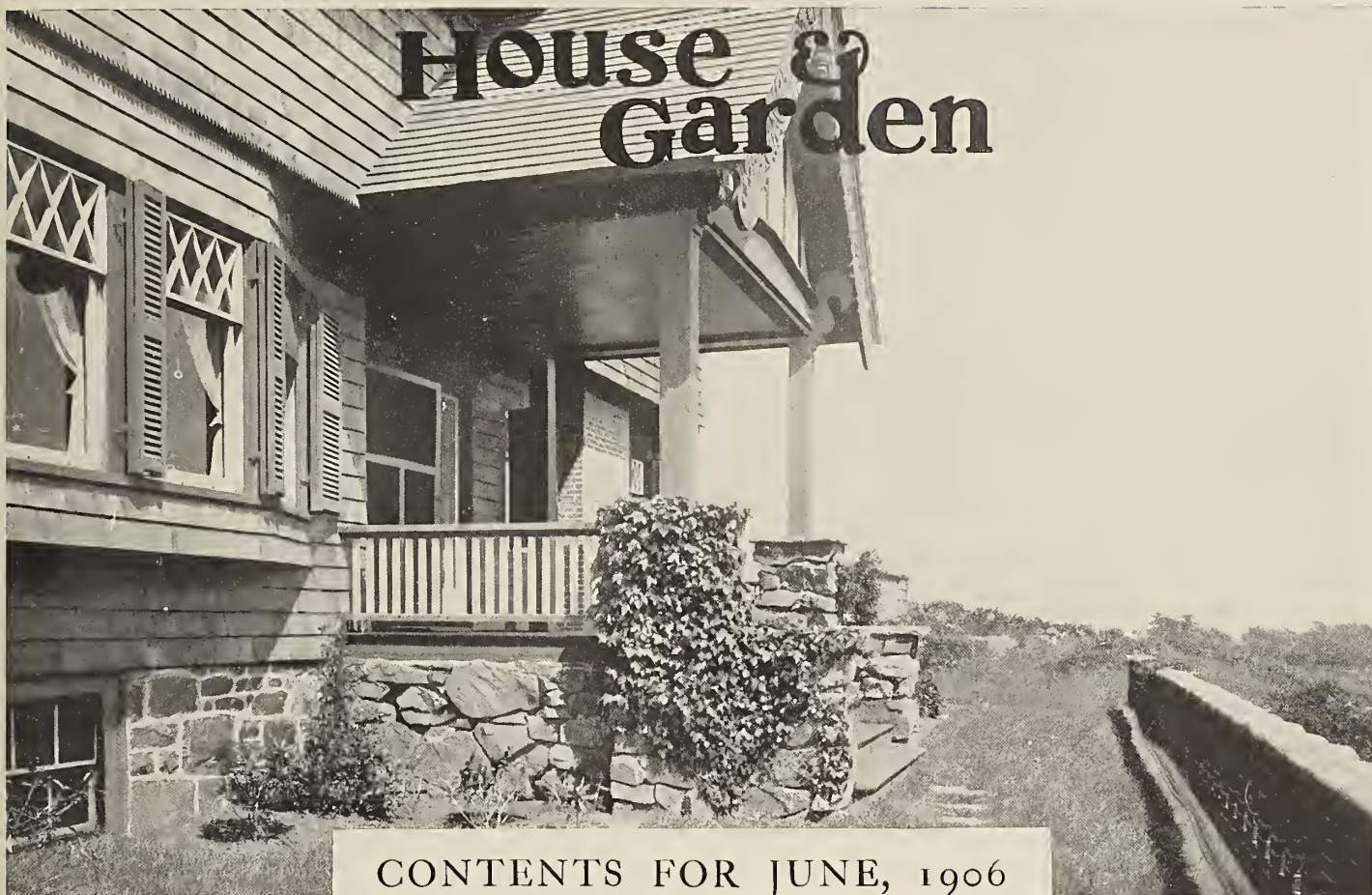
We are expecting to pass through Chicago in July or August and desire to ask you whether we might have the privilege of looking at your grounds. We are in a way familiar with them from various magazine views and articles, and have been deeply interested. This question of a hardy garden is an absorbing one to us, and one that presents many difficulties in a city where tender bedding plants are the rule. We have striven for years to secure a really worthy collection of shrubs and plants but feel that our garden is still in the embryo. We hope, my wife and I, not to annoy you in any way, but you have indirectly been such a help in the past, that we have presumed to ask this favor.

C. B. S.

Rosa Altaica is listed in the catalogue of the Elliott Nursery Co., German Nat. Bank. Bldg., Pittsburg, Pa. Mr. Elliott is not one to overpraise the virtues of any plant, and his extensive explorations among the European nurseries give unusual opportunities for the observation of everything cultivated, yet he describes this plant as "one of the loveliest roses in cultivation" and again says "no description can do justice to this rose." This is true in part of his description where he says, "large, single, yellowish-white flowers produced in the greatest profusion."

I would call them paper white. In a catalogue issued some years ago by the Reading Nursery, Reading, Mass. under the misleading name of *R. grandiflora*, it is described as having "light green and finely cut foliage, and large, purest white flowers. About the same time the Shady Hill Nursery Co., Boston, had it as a novelty, and again under the name of *R. grandiflora* describing it as follows—"The flowers are pure white and are the largest of the single roses being nearly four inches across. I have seen a catalogue issued since the above by one of these houses where the proper name "*Altaica*" is given to it.

W. C. E.



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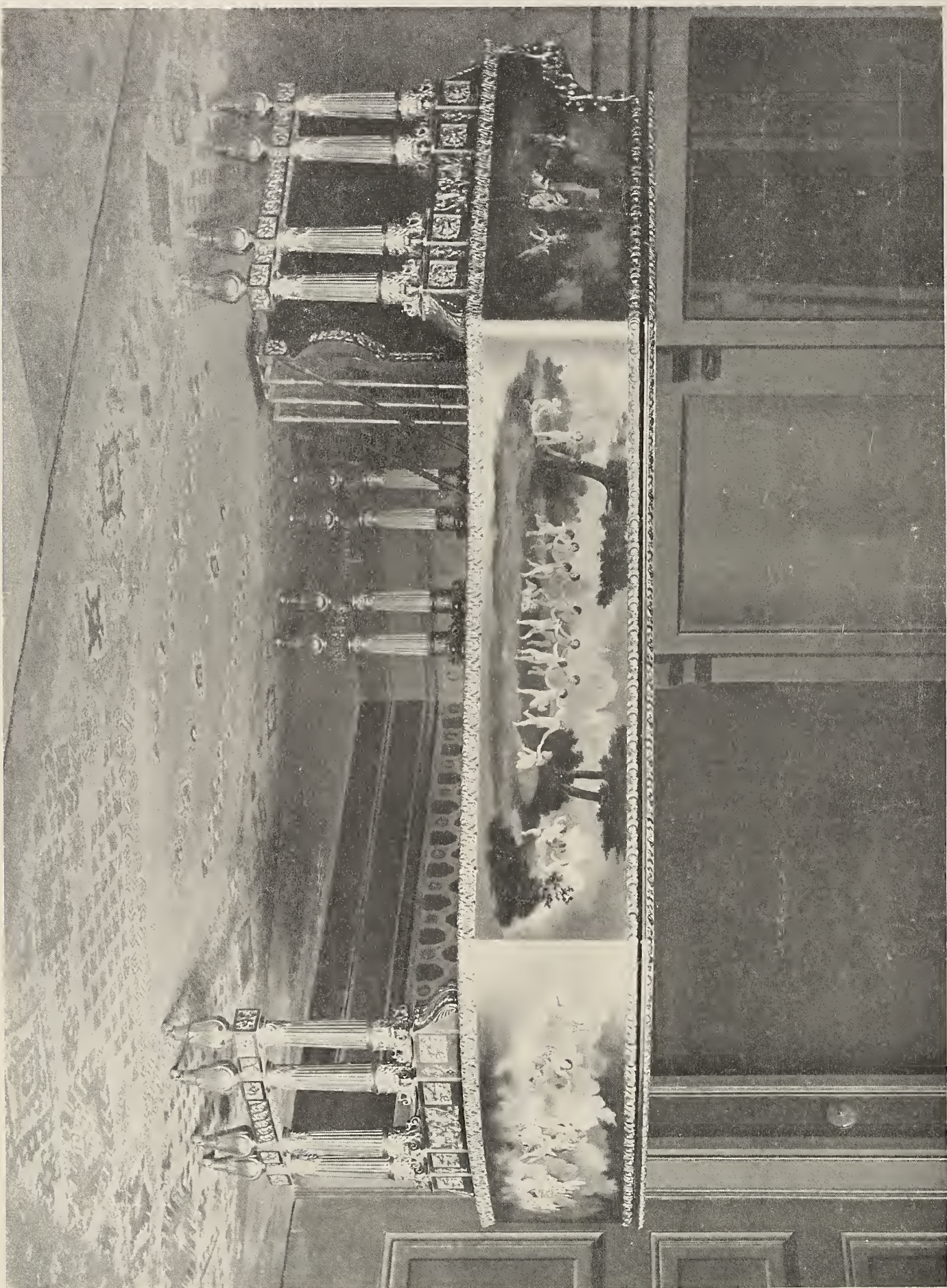
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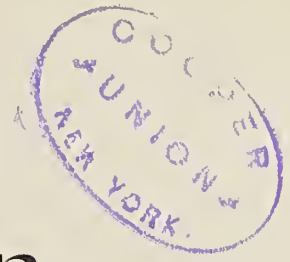
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CHICKERING GRAND IN GOLD CASE. PAINTINGS BY GENGOULT



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THE EVOLUTION OF THE PIANO

By K. L. SMITH

THERE hangs in the splendid Crosby-Brown and Drexel collections of musical instruments in the Metropolitan Museum of Art, an odd-looking, discolored piece of bronze, battered and worn by time which at first glance has little significance. There is a handle, a rim and three pieces of old bronze held loosely in place. This modest affair, resurrected from some ancient city's site is a sistrum, used in the worship of Isis and is one of the earliest forms of musical instruments of which any record remains. From this primitive instrument to clavichords, virginals and spinets the road is a long one but man's inventive genius has bridged the way until now there is little left to suggest in the perfecting of instruments to secure notes.

In all ages the musical instruments, because expressing alike religion and passion, have possessed peculiar significance. The koto of Japan, the Celtic harp, the Italian violin, the cosmopolitan piano each is typical of the race which originally fashioned it. Since man first became a living soul he has been breathing the life that vivifies into his works and in none of the arts has he more nearly succeeded than in the piano.

The primitive instruments of the world were the whistle and rattle, later came a pipe with finger holes and the use of the bowstrings arose from the hunter's habit of fondling his weapon. The first savage who found his bowstring sound louder when attached to a block of wood than when simply stretched by his bow, crossed in one bound the chasm between barbarism and art and ever since a few basic principles have been applied by humanity at large. As a result, among modern inventions Italy has perfected the violin, France the harp, Spain and Italy the guitar and many countries the piano; for artisans, musicians and literati have all worked at the last. Whether Italy built on the German and the German on the French is not known; possibly the piano forte was invented in all these countries simultaneously, but the credit is given to Italy.

It seems probable that the immediate ancestor of the piano is the monochord of the Middle Ages, once used in training voices in convents. It is supposed that Pythagoras found the monochord in Egypt,

where its principle of a stopped string upon a finger board had been known, as monuments testify, long before his time and it may also have been known in Babylonia. Later the monochord became in Greece, where polychord instruments had prevailed and in Europe generally, the rule for the measurement of intervals. A long box of wood, bridged at either end, with a central movable bridge over which was stretched a catgut string—this was the monochord. Early historians say it is not known who invented the clavichord by adding keys to the monochord, but it is certain the latter instrument was gradually transformed into a polychord with four strings and a keyboard and the clavichord being a development of the monochord long bore the same name. As the early clavichords were strung with wires of equal lengths the instrument was long regarded as a set of monochords.

As all various instruments have in common the apparatus of levers and touch keys for eliciting sound, the applications of keys to shorten strings was attempted with instruments of the hurdy-gurdy class and in this monochord the interval measure was stopped by means of little bridges, up to A. D. 995. While the spinet, which was used later, followed the organ closely in the disposition of the keyboard, the clavichord adhered to the conception of its inventor Guido, who adapted the keyboard to a polychord stringed instrument. The oldest dated clavichord known is of Italian origin, inscribed A. D. 1547.

It was in the Elizabethan age that the clavier or clavichord began for the first time to play a part in the world. Circumstances seemed to favor it for a certain dependence upon art came upon the society of that day. The heavy churchiness of the organ and the light secularity of the lute needed to unite themselves in an instrument sufficiently flexible to represent and follow with some degree of ease the voice parts and embrace the whole tonic scale so as to expand the limits of the voice. The clavier offered itself for this and as a light and convenient instrument. It was in England that the clavier first recognized its mission for the orchestra and chamber music and in London we find the first clavichord books that were ever published. Among them is a virginal book of



CRISTOFORI PIANO IN METROPOLITAN MUSEUM OF ART, NEW YORK

the Earl of Leicester and another of Lady Nevil.

The clavichord does not admit of the delicacies of touch which delight us in the pianoforte but one could cite a long list of distinguished names of men who labored with success at this instrument. A hundred attempts were made to make it more impressive for here too the eighteenth century was the experimental preparation for the felicitous successes of the nineteenth. Many kinds of claviers were invented. Some with pedals are mentioned while others had two keyboards and a separate pedal board. In Germany the chromatic scale clavichord was used and boxwood preceded ivory as the material of the lower keys. In elaborate instruments tortoiseshell and mother-of-pearl inlays were not infrequent and this instrument has always been valued by musicians for its tender timbre. Excellent specimens can be seen in collections, notably in that of Mr. Morris Steinert of New Haven, Conn.

The clavier for which English musicians wrote was called a virginal or spinet, names which have been given to the same instrument. Virginal was the English name for spinet according to the definition of a plectrum keyboard instrument with no more than one string to a note. Inasmuch as the name was current during the reign of Henry VII. it cannot

be assumed that after the flattering fashion of the time it was so called in honor of the virgin queen. Possibly the name is due to the fact that the small size of the instrument made it especially suitable for young girls, for the same name prevailed in Italy. The origin of the name of spinet has been attributed either to the introduction of little quill points or to a Venetian maker, who signed his instruments Giovanni Spinette but the origin of the name is obscure, partly because of its age. In inventories of the instruments of Queen Isabella, spinets are reckoned as old. Queen Elizabeth was an accomplished player and her father, Henry VIII., not only played upon the virginal but had a professional vir-

ginist attached to his court. Mary Queen of Scots was proficient on this instrument. A virginal that was associated with Queen Elizabeth is now in South Kensington Museum and bears among its elaborate decorations the queen's coat of arms.

An enthusiastic admirer of Bach, who possessed a collection of musical instruments, contends that it is only upon the instrument for which a piece is written that a correct interpretation can be obtained. In the Vienna Conservatory of Music the Bach school is studied upon the instruments for which they were written. Many of these old style instruments have been exhibited in this country and Europe, among them the clavichord used by Mozart, formerly in the Mozarteum at Salzburg, and a harpsichord played by the fair Nellie Curtis has been exhibited at several Expositions.

Mrs. Crosby-Brown has provided the New York Metropolitan Museum with a Flemish spinet painted with the story of David's victory over Goliath. A spinet made by Haward can also be seen there, pathetic in its old timeliness and a double spinet by Grovvelus ornamented with paintings and inlays is also there. With the restoration in England the name virginal went out and the name of spinet was universally adopted. The wing form came in vogue

The Evolution of the Piano

COOPER
UNION
NEW YORK

and Haward and Hitchcock appear to have been eminent makers. The latter had the honor of supplying Samuel Pepys.

Coincident with the introduction of the spinet appeared the harpsichord. The harpsichord is in fact a double, triple or quadruple spinet, the sound being excited by a jack plectrum the same as in the spinet. During the two hundred years after its introduction the harpsichord underwent many changes and it was not uncommon to adorn them with elaborate designs. The palm for excellence in harpsichord making is due the famous Ruckers family of Antwerp. One of these harpsichords is preserved in Windsor Castle and is of interest from the fact that it is believed to be the instrument mentioned in Handel's will. Bach liked the harpsichord and used one with two registers. A harpsichord was made by

Clementi, the great pianist and predecessor of the Collard firm, as late as 1802, the last year that Beethoven's Sonatas were published for that instrument.

It was a harpsichord maker, Bartolommeo Cristofori, in the employ of the Duke of Tuscany who, in 1711, made the first successful piano—Marius of France and Schroeter of Germany producing less happy models after. Though the invention of this Paduan harpsichord maker had sonatas composed for it and it was called pianoforte because it could be played piano as well as forte, it was soon forgotten. Cristofori as curator of Ferdinand dei Medici had a splendid collection of Belgium, French and Italian instruments to look after, the study of which undoubtedly aided him in his invention. There are two grand pianos of Cristofori still existing. One decorated in gold and Chinese figures is in Florence,



THREE BANKED HARPISCHORD IN METROPOLITAN MUSEUM OF ART



PIANO CASE BY WILL BRADLEY, CLOSED

the other of four octaves in a simple case like the usual Italian harpsichords is in the Crosby-Brown collection. Cristofori's pianoforte although showing primitive technique was the forerunner of the present system, yet so unable was it to give desired results, that the inventor could never have dreamed that three hundred years later a monument would be erected to him in the Santa Croce of Florence.

A pupil of Cristofori made a piano in 1730 for the Queen of Spain but the merit of introducing the invention into Germany is due to Silbermann, the great clavichord maker of Dresden who worked so hard at the perfecting of the pianoforte that from him the gradual displacement of the clavichord may be dated. He had a good master for this difficult work—Sebastian Bach. When he brought the first model to Bach the latter found it too weak in the treble. Silbermann, who was stimulated by this criticism, sold no more but continued to work until the "old Bach" gave unqualified commendation.

Frederick the Great ordered five pianos for his royal palaces and there they remain at this present time undisturbed, as when the king left them. Heretofore only the grand piano had been made but to Frederici in Germany is accredited the invention of the square piano in 1768. The seven years' war temporarily put an end to Saxon pianoforte making and many of the workmen found their way to England. Bach, arriving in London in 1759, appears

to have played on a piano of English make. So energetic, however, had Germany been that the great piano manufactories of the world can all be traced back to German origin.

In the meanwhile various modifications were constantly introduced. Improvements were added by Backers and Johann Stein of Augsburg, whose daughter was an accomplished pianoforte maker and a friend of Beethoven, who had expressed a preference for these pianos. Indeed factories alone would never have brought out the final triumph of this instrument if there had not been virtuosos to play it. Clementi in England and Mozart in Germany really won the decisive victory, so that a piano has become an essential part of life, and an active musical centre that gives the stamp to one's whole conception of music. It is interest-

ing to note this interdependence of manufacturers and artists in all times. It was in Pleyel's concert-room that Chopin loved to play; in America the Handel and Haydn Society of Boston has been assisted by the Chickering; in New York, Steinway Hall was the home of our most famous orchestras and these firms have brought a long list of artists, Joseffy, Essipoff, Paderewski and others to this country, for without the assistance of the great piano manufacturers no artist can expect to make a successful tour. The history of this noble instrument is woven into the lives of many men and reaches from ocean to ocean. To-day Bechstein's factory stands at the head of German manufacturers but there are also Duesen, Bluthen and others; Bosendorfer in Vienna, Knabe in Baltimore and Steinway in New York have but added to the renown of Chickering in Boston. What a goodly array. In one hundred years the instrument has advanced to unexampled perfection and a network of factories is spread over the whole world. Although a large majority of the builders buy their actions ready made to save expense, the great houses make their own, and each possesses its own special features, usually the experience of generations.

All pianos without distinction as to period, country or maker have from necessity certain structural features. The strings, wrest pins, sound-boards or belly, bridges, keys, intermediate mechanism, ham-

The Evolution of the Piano

mers and dampers are all essential. The arrangement of keys is the sacred tradition of centuries, for it presents the tone system, as it were, lengthways. Our keyboards are constructed entirely on the C major scale, the tones outside this scale being thrown on the black keys. Attempts have been made to form a regular chromatic scale of twelve keys and a new keyboard invented by Paulson Janko has been sanctioned by some of the piano houses of Berlin and Leipsic.

When a man sets about making a piano he lays a sheet of paper the size of his projected instrument on a drawing table and outlines a plan. On that plan is shown every detail of the future instrument. In our best instruments there are as many as forty thousand different pieces and one instrument is months in the hands of the workmen after the seasoned wood leaves the lumber yards. The outside of a piano is usually veneered, concealing the solid wood which may be of mahogany, black walnut or oak. Steinway build their pianos out of continuous layers of maple and oak bent into form by metal processes. In order to obtain suitable wood this firm possess in Astoria, opposite New York, great estates, the timber of which covers more than one hundred and fifty acres. This firm also owns saw mills, and large stores, and water basins for keeping the logs from cracking. This care, with the matchless wood,

revolutionizes the system of building and allows the construction of cases in accordance with the laws of acoustics. Bechstein, for instance, in one of his latest models has twenty-two thicknesses of wood in the curved sides and end. He, too, has estates as well as factories and the wood passes through the yards to the dry room, in store cellar and finally in storehouse. Two important rooms are devoted to steam power where all the metal work is carried on. This firm largely supplies Europe and they make 2500 pianos yearly.

Up to 1820 pianos were made like spinets with the weakest part at the treble end. To obviate this a metal was added to the wood structure which was modified by successive makers. Jonas Chickering of Boston carried this invention further and patented a new iron frame for square pianos. Later came the grand piano of Henry E. Steinway combining the metal frame and overstringing. It is impossible to enumerate all the innovations. One can mention besides the iron frame and overstringing, the felting of the hammers, the third pedal and vertical stringing of upright pianos.

It has often been asked if the lines and curves of pianos cannot be changed to make them more pleasing to the eye. While it is comparatively easy to design lines which will be agreeable it will readily be seen that the problems of stress and strain, tone and



PIANO CASE BY WILL BRADLEY, OPEN



WEBER PIANO IN LOUIS QUATORZE CASE

quality have first to be solved. When the piano became a source of social pleasure its treatment as a piece of furniture was first considered. The square had only the lower extremities in which the style of a certain time could be expressed, and as a consequence, the legs have been "baroque" Empire or Renaissance as occasion demanded. The upright piano has sunk deep into domestic styles and offered a field for various experiments. The cases of grand pianos are

frequent to-day in which magnificent instruments have been carefully fitted up with ornamentation of all styles and to suit all decorative schemes.

Bechstein has pianos rich with rococo ornament and splendid instruments are painted in Germany by Max Koch. The Wagner and Rheingold pianos made by this German firm are wonders of art. The latter has the daughters of the Rhein for legs and carved bulrushes on the lid. A piano made for

The Evolution of the Piano



WEBER PIANO IN LOUIS QUINZE CASE

Carmen Sylva has legs of ivory, that ivory which is in such demand for the piano trade that thousands of tusks are imported every year just for the keys alone. In England Alma-Tadema is in demand as a piano painter. For Henry Marquand of New York, he painted a Steinway adorned with precious stones which is valued at fifty thousand dollars. His own piano is in

the style of mediæval mosaics, under the lid are figured parchment slips on which Liszt, Tschaiowski, Gounod and others have inscribed their names. Other artistic pianos have been painted by Blashfield and one of these is owned by the Drexel family of Philadelphia.

Quite as unique are the treasures of Steinway's



WEBER PIANO IN LOUIS SEIZE CASE

Art Rooms where can be found pianos decorated by Tojetti, Alma-Tadema and Blashfield. These instruments in particular deserve notice as creations of decorative art worthy of a place beside the treasures of the famous French epochs. There is a Louis XIV. grand, hand carved and embellished with cartouches containing exquisite groups of women and children dancing and playing musical instruments, in the Græco-Italian style. The case is enameled in that pale apple green so

congenial to the decoration of the French Renaissance. The groups are astonishingly graceful and charming.

Another gem is "a symphony in red," the suggestion of which is due to M. Jean de Reszke. The piano is mahogany. A female figure in the centre of the lid holds aloft a lamp, whose light shines upon and through the clouds of *amors* that are flying toward it, and radiates all the figures that adorn the case. One turns in this art

The Evolution of the Piano



room from the charming Lohengrin grand, decorated with wreaths of orange blossoms and designs from the opera and in which fancy seems to catch a resemblance to one of our noted prima-donnas in Elsa, to the countless other treasures and wonders where to stop. More and more the conviction forces itself that the piano forte is the greatest of musical instruments. Who can define its limitations or test its powers to the utmost? No sooner does one fancy that nothing further can be done to enhance its possibilities than some inventor gives it greater volume or sweetness of tone.

Piano making is becoming more and more of an art. Its wages keep alive the hearthstone of many nations for a piano contains valuables from every zone. Its ivory is a costly treasure, the tusk perhaps the cost of a human life; its ebony is the symbol of an old and little known people and tropical landscapes; its wood recalls jungles of Central America or the sublime forests of the Great Lakes. Such is the piano. Among the triumphs of art and science is this art of piano making in which we Americans have cause for pride for we have outstripped all other nations. Our pianos have graced every court from that of the Shah of Persia to the Grand Duke Vladimir, the great Russian connoisseur of music. A peculiarity about the piano builder is his devotion to his art, for every fine piano leads captive the mind who planned it. The devotion of the employees of our best piano firms is proverbial. Some of these men are sons of those who formerly worked for them. Another century will face new problems and fresh triumphs are awaiting an art whose brilliant promise seems limitless.

And so, as luxury has increased, the piano has become an object upon which sculpture and painting and the craftsmanship of the cabinet-maker have been expended to a degree hardly realized by those who have not followed the artistic side of the matter.

Have you a music-room with furniture and hangings in the Empire style? Behold an upright carried



THE WHITE HOUSE "GOLD" PIANO

out in the short-lived fashion that obtained in Paris during the heyday of Napoleon's triumph—shields and cupids and sphinxes in fire gilt or dull metal, garlands of silver applied to ebony or mahogany panels, eagles of France clutching the fire-bolt in their talons. Is the interior colonial? Here is a prim, white-winged baby-grand with quaint lattice-work designs between small fluted columns, just such a piano as ought to have been found in the old square houses with pillared porticos which still exist in the Atlantic States and are not unknown in the Central. Is your music-room paneled in natural woods? Observe what a variety you may choose from—staid, dull-glowing mahogany or brilliant satinwood full of little soft flames, Circassian walnut from the Caucasus, Abyssinian maple from northeastern Africa, which makes one think of zebras; strange, beautiful woods from the Philippines, which may be seen in the rough and the smooth at the Museum of Natural History.

House and Garden

It will go hard if you or your architect have not sufficient memory of color harmonies to pick some piano which completes in a higher or lower key the color scheme of your room.

At the exhibition rooms of the Æolian Company in New York are shown four splendid grands, three of which are here included. On the main floor, a Louis Quinze piano greets one, such as might have been the gift of a fellow-potentate to that king, had such instruments existed in his reign. It is treated in dull gold throughout. Carvings nearly in the round include sportive figures of nymphs, half-draped, which decorate the front to right and left of the keyboard, broadly carved figures with draperies in well-studied folds, the little faces peeping from under lowered brows.

This piano has very agreeable proportions; the legs are graceful in line, neither too heavy nor too slight for the bulky box they must support. The long sides, with their graceful traceries in relief, seem to call for delicate paintings, which would have a capital background in the dull gold. Very often, however, decorated pianos have too much in the way of paintings on them, figures and scenes too learned and labored. Here the problem would be for some artist of infinite taste, like Whistler, to enliven the sides with "harmonies" in one or two colors. But if that sort of artist were not to be had, the object as it stands is far better without further embellishment, since the more beautiful and complete a thing is, the greater the danger that another touch spoil all. The instrument costs as many thousands as an ordinary piano costs hundreds.

On one of the upper floors stands a Louis Quatorze grand, with dull and burnished gold cleverly contrasted. Its shape and decoration belong with the heavier architectural style of the older reign. The pedal is shaped like a solid lyre, the music-rack is like a screen such as one sees

in architecture. The massive effect of all this woodwork is strongly in contrast with the airier grace of the Louis Quinze instrument just described.

Such objects of art belong to certain interiors. Or, if one should acquire such an object, then it might be a delightful occupation to make it serve as the centre-piece round which gradually to accumulate the tapestries, paintings, clocks and furniture which belong to the epoch so bravely set forth in the fictions of Alexander Dumas, an epoch which has been exploited of late by the historical romances so popular to-day, notwithstanding the almost crushing superiority of Dumas.

Here, too, is a Louis Seize piano in the natural color of Circassian walnut, a beautiful wood from the Black Sea, whose markings throw the fantastic lines of art nouveau into the shade. The decoration is more discreet and reserved than that on the Louis Quinze instrument. Carvings in high relief are eschewed. The cover is treated with a leaf-ribbon ornament incised and gilt. The music-rack is solid and similarly treated, while the legs have small garlands in low relief with gilding prudently administered to avoid all suggestion of sumptuousness or the baroque. At the sides of the keyboard and at the end of the case are classic profile medallion heads carved in the walnut, set about with delicate carvings, gilded. All is refined in comparison with the preceding styles and that of the Empire of later date. One sees the result of studies by artist-artisans of the objects collected in the Musée des Arts Decoratifs at Paris, for although these "art pianos" were made in New York, none the less must their makers have had before them such examples of decorative art as one can only find in Paris. It is to supply such models here that the new administration of the Metropolitan Museum of Art has set to work under the directorship of Sir Purdon Clarke and Dr. Edward Robinson.



PORTRAITS OF AMERICAN TREES, NATIVE AND NATURALIZED

WITH A GUIDE TO THEIR RECOGNITION AT ANY
SEASON OF THE YEAR AND NOTES ON THEIR
CHARACTERISTICS, DISTRIBUTION AND CULTURE

BY CLARENCE M. WEED, D. SC.

Photographed from nature by Arthur I. Emerson



PART I

The White Pine—*Pinus Strobus*.

The Catalpa—*Catalpa catalpa*. *Catalpa bignonioides*

The Large-Toothed Aspen—*Populus grandidentata*

The Horse-Chestnut—*Æsculus Hippocastanum*

The Box Elder or Ash-Leaved Maple—*Acer Negundo*

The White, Paper or Canoe Birch—*Betula papyrifera*



The White Pine—*Pinus Strobus*

IN many respects the White Pine is the most important timber tree which the American continent produces. It is pre-eminently the tree whose lumber has the qualities adapting it to the greatest variety of uses. During recent years, however, the available supply has become more and more limited so that the price has rapidly risen and the lumber can no longer be used for many of the purposes to which it was formerly applied. Original forests of this tree are becoming scarce and where they exist in centres of population they are places of pilgrimage, as in the case of the famous white pine grove at Carlisle, Massachusetts.

The White Pine has such distinctive characteristics that the tree is known to everyone who has paid the slightest attention to the plant world. It is at once distinguished at a distance from the Norway Pine and the Pitch Pine by the comparative fineness of its foliage, the slender needles, arranged in clusters of five, being borne along the sides of comparatively slender branches that sweep out horizontally with their tips commonly

curving upwards. As seen close at hand these needles show two or three distinct whitish lines on the lower surfaces as well as a finely serrated margin. The young twigs are brownish, more or less covered with a fine pubescence, while the older twigs are smooth and shining. The cones are very characteristic, being long and comparatively slender with their scales enlarged toward the outer end but rather thin at the tip. The winged seeds are light brown in color.

The White Pine is essentially a Northern tree, its original range extending from Newfoundland to Ontario and Southern Manitoba, thence going southward to Minnesota, Iowa, Michigan and Ohio and following the Allegheny mountains into Georgia. In many parts of this territory primeval forests of White Pine formerly covered vast areas, but these have been almost wholly cut down. Much attention has of late been given to reforesting some of these areas and the White Pine is deservedly popular for forest planting as well as for use in landscape gardening.



The Catalpa—*Catalpa catalpa*. *Catalpa bignonioides*

THE Catalpa is one of the few trees which rivals the horse-chestnut in glorious beauty during the period of blossoming. The great panicles of showy flowers borne on the ends of the branches against the leafy background of the newly developed foliage render the tree one of the most conspicuous objects in the landscape and serve to attract the attention of the most indifferent human observer as well as the eager presence of swarms of bumble-bees and other insects which cross-pollenize the flowers in return for the nectar and pollen.

The flowers are soon succeeded by the slender, thin-walled pods which slowly mature through the summer until autumn, when the leaves fall off. They reach a length of eight to twelve inches and serve as a ready means of identifying the tree during late autumn and early winter, as they hang from the tips of the smaller twigs.

Two distinct species of Catalpa are recognized by the best authorities. The Eastern Catalpa, as it is called, is the species represented on the plate. It has slender pods with

thin walls and the tips of the leaf are short-pointed; the inside of the flower is thickly spotted with reddish dots and the lower lobe is generally entire. The technical name of this species is *Catalpa catalpa*. The Western Catalpa has stout pods with thick walls and the tip of the leaf is long-pointed; the inside of the flower is not thickly spotted with colored dots and the lower lobe of the corolla is generally notched at the tip. The technical name of this species is *Catalpa speciosa*. The distinctions between these trees are not always easily made out by the amateur, as there is great variability in the special characters above mentioned.

The Catalpa is an extremely valuable tree for ornamental planting as well as for forestry purposes. During the last fifty years the Western Catalpa has been largely utilized in the middle West for the latter purpose and has proven a profitable crop. The tree is handsome at any season of the year, grows rapidly, is quite free from insects and fungus enemies and may be obtained in quantities from nurserymen.



The Large-Toothed Aspen—*Populus grandidentata*

IN early spring the Large-toothed Poplar is the most conspicuous tree in the forest. The young growth is so thickly covered with a cottony down that the tree stands strongly revealed against the darker background of the neighboring branches. When the leaves are fully expanded much of this whiteness is lost and the tree resumes its normally inconspicuous position.

Before the developing leaves show themselves the tree sends out long, pendent festoons of greenish gray, or reddish odorless blossoms, those bearing pollen being reddish and upon one tree, those bearing pistils of grayish green upon another, the wind carrying the fertilizing pollen from the one to the other. These blossoming catkins resemble those of the aspen, but a close examination will show a hairy covering upon the scales at the base of the catkins instead of the varnish-like coating upon the bud-scales of the aspen. The seeds mature in May or June and are covered with a woolly down that enables them to float in the air.

In summer the Large-toothed Aspen is

easily distinguished by its good-sized leaves, coarsely dentate on the margins, with long, vertical, flattened petioles that give the blades great freedom of motion. The side margins of the blades are usually turned upward so that the upper surface of the leaf is concave, a circumstance which renders them much more likely to be constantly twisted by the wind than if the blades were flat. In autumn the leaves turn yellow before falling, some of those on the tips of the twigs assuming beautiful orange-red hues. The leaves on the suckers that spring up from underground roots or about the base of a stump are different from normal leaves of the species being larger, serrate rather than dentate, and commonly covered on the under surface with a cottony down.

The bark of the tree trunk is dark gray, marked with short vertical furrows which do not extend very far. The bark, as a rule, is darker than that of aspens of the same size, and there is not so striking a difference in color at the junction of the branches with the trunk as there is in the case of the aspen. The buds are pointed and downy.



The Horse-Chestnut—*Aesculus Hippocastanum*

FROM its original home in the mountains of Greece the Horse-Chestnut has been carried by men over a large part of the habitable world. From the earliest settlement of North America by Europeans it has been planted for shade and ornament, and in some of the Eastern States it has spread spontaneously from the fruit of these planted trees.

The Horse-Chestnut has many qualities which make it desirable for ornamental planting. It grows sturdily and rapidly, has few insect enemies, gives a dense shade and has at all seasons a somewhat conventional beauty that is exceedingly attractive. Even in winter the straight trunks shoot up from the middle of the tree with an orderly arrangement of the branches and twigs, and the huge conical buds with their glistening brown hues are sure to challenge attention.

In early spring the trees have a very bizarre effect that cannot be neglected. A little later, when the gray, compound leaves have fully developed and the glorious erect panicles of white blossoms come to their perfection, the Horse-Chestnut is, as the artist Hamerton has said, "a sight for gods and men."

These wonderful blossoms, seem primarily intended by nature to attract the visits of the queen bumble-bees, which are abroad during the weeks when the chestnuts bloom. The expanded, recurved stamens, with projecting style and stigma, serve as a landing place for the bees, which are guided to the nectar by the spots of color at the base of the petals. This nectar is protected from the visits of ants and other wingless insects which would steal it without carrying the pollen from blossom to blossom, as do the bumble-bees, by the presence of numerous hairs upon various parts of the flower.

The leaf of this tree is an excellent illustration of a palmately compound leaf. There are usually from five to seven leaflets arranged on the end of the stout petiole, which is much enlarged at its base and which, when it falls off in autumn, reveals a most characteristic leaf-scar which has been frequently likened to a horse-shoe, a series of so-called bundle scars around the margin serving to represent the nails. Mrs. Dyson writes that in England the tree is sometimes called the Hyacinth tree and also the Giant's Nosegay, a suggestive name when the tree is in blossom.



The Box Elder or Ash-Leaved Maple—*Acer Negundo*

THE most attractive feature of the Box Elder or Ash-leaved Maple is found in the rich coloring of the twigs in autumn and winter. These are of a glorious olive green often covered with a glaucous bloom, one of the most satisfying hues in the world of trees. The broad buds are densely downy and generally greenish or brownish in color. The bark of the older branches is greenish or brownish, while that of the trunk varies from yellowish green on young trees to dark grayish brown on older ones.

The pendent clusters of greenish yellow flowers appear in early spring, generally during the first half of April. The pollen-bearing and seed-bearing blossoms are on separate trees. The former are in simple clusters of long-stemmed flowers; the latter are in long racemes. The leaves begin to develop as the blossoms appear, and soon clothe the tree with a compound foliage of a tender green color. Each leaf has from three to seven leaflets, and is of a very characteristic form which is well shown in the accompanying picture.

As the leaves fall from the Box Elder in October the fruit-laden tree seems scarcely to miss them, so thickly is it clothed with the

long pendent racemes of graceful key-fruits. There are often ten or a dozen fruits hanging from a single stalk, the distance from the base of the stalk to the tip of the terminal samara being commonly nine or ten inches. Each pair of fruits is joined at nearly a right angle, the fruit being slender at the base with a rather broad wing. These key-fruits often remain upon the tree through part of the winter, being whipped off one at a time by strong winds that carry them far and wide, leaving behind the stalks attached to the twigs.

As a shade and ornamental tree the Box Elder has the advantages of rapid growth, dense foliage, good coloring, and comparative freedom from attack by insects and fungi. As it gets older, however, it often shows a certain lack of grace, and in some way it does not make the distinctive appeal that many of our shade trees do. It is variable in growth so that it is not desirable for planting in long rows where uniformity is desired. Of late years varieties with colored foliage have been developed and offered by nurserymen.

As a native tree the Ash-leaved Maple is distributed throughout most of the United States east of the Rocky Mountains. In California a special variety is indigenous.



The White, Paper or Canoe Birch—*Betula papyrifera*

THE canoe birch or the paper birch is one of the best known trees throughout its range. It is closely associated with our history and literature and is one of the most beautiful of American trees. It is not so abundant in specimens as the gray birch but attains a much larger size and forms a much more striking feature of the landscape in which it grows. Seen against the dark background of a river or lake the glistening white trunks of these trees form so striking a picture as to awaken the interest of the most indifferent observer, while a group of young trees growing slenderly erect along the border of the forest form a picture which is sure to call to mind Coleridge's well-known phrase regarding "the lady of the woods."

Every schoolchild knows of the usefulness of the bark of this tree in building the canoes of the Indians and early American settlers, and everyone who has been so fortunate as to roam the woods where it grows has enjoyed the fascination of peeling off the thin, almost transparent layers of the beautiful bark. In these modern days the trees are largely used

in the making of paper pulp, as well as for various purposes in the manufacture of lumber products.

In addition to the loosely peeling, glistening white bark this birch may be identified by the broadly ovate leaves, less narrowly pointed than those of the gray birch, with short, stout petioles which are not hairy, and the broad catkins which are drooping rather than erect. The species is also often called simply the white birch and was named by Marsh, *Betula papyrifera*.

The Paper Birch is a northern species, occurring from Labrador and the Great Slave Lake region southward as far as New York City, Pennsylvania, Iowa, Nebraska and Dakota. It is especially abundant in the great wilderness region of Canada, northern New York and northern New England, where along the banks of lakes and rivers it is one of the beautiful and characteristic trees. An interesting form in which the base of the leaves is cordate is found upon the mountains of New England. This has been given the variety name of *cordifolia* by Sargent.



FIRST FLOOR PLAN
SCALE, 1/8 INCH =
ONE FOOT.

ALTERATIONS AND ADDITIONS
TO A HOUSE AT CHESTNUT HILL, PA.

ALBERT KENNEY ARCHITECT

1905

A. M. G.

PERSPECTIVE VIEW FROM THE (UNFINISHED) GARDEN

ADDITIONS AND ALTERATIONS TO AN OLD HOUSE AT CHESTNUT HILL, PA.

ALBERT KELSEY, ARCHITECT

LARGE without pretentiousness—in fact, though the addition is larger than the old house, it is so much concealed from the road, and blends so well with the original, as to look like merely an old, comfortable country home. A modest new portico is all that has been added to the front, though much old jig-saw work has been removed.

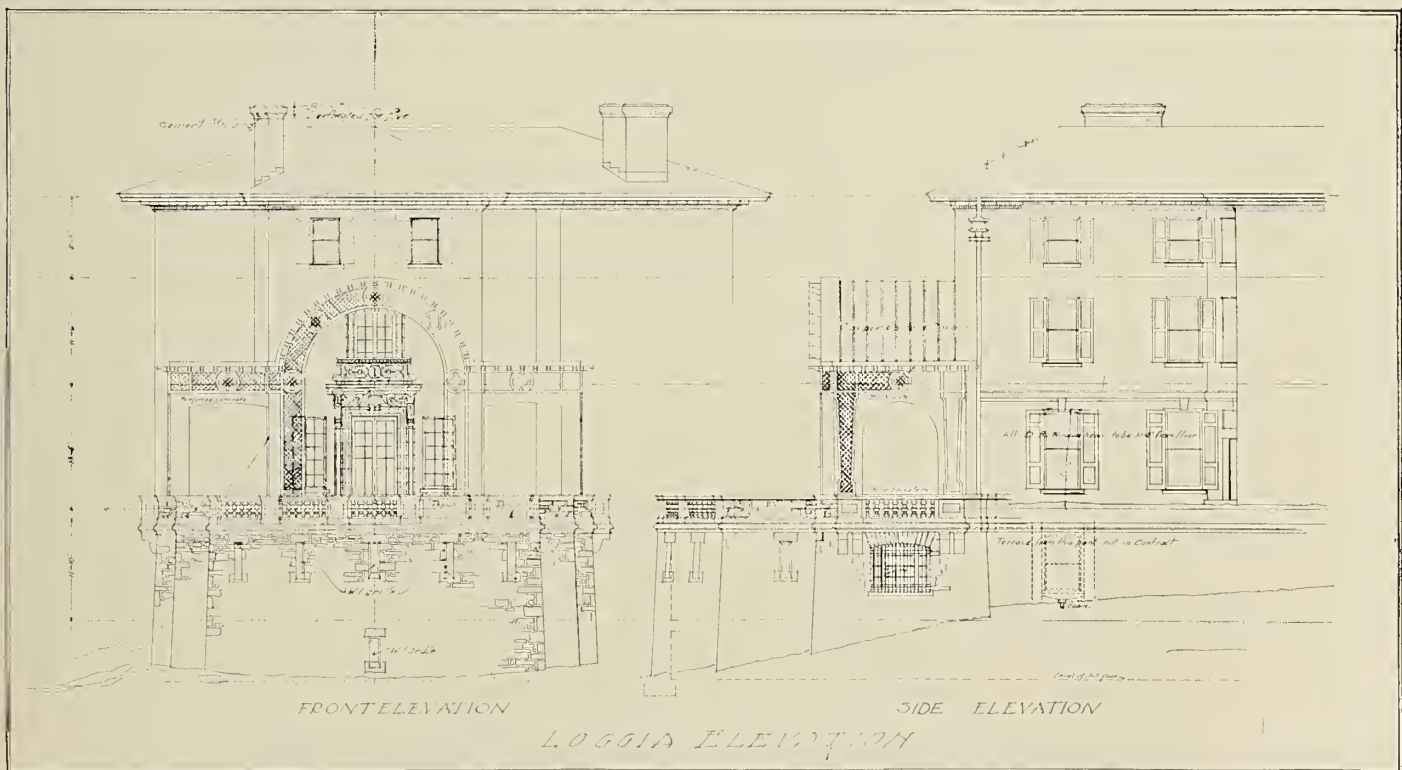
To bring a superb view into line and focus and comfort, were the two objects striven for. In achieving the former a strategic move has been aimed at. The property on which the house stands is of but scant acreage, but the owner's mother's large estate adjoins, and beyond property is also owned by the family. Here it is aimed some day to erect a house, which will also be planned to accuse a view, namely a view which shall terminate or be focussed on the loggia of the house we are now describing. In other words, a reciprocal treatment of the three places, treated as one estate, is ultimately hoped for; thus the striking loggia will count in a private landscape without flaunting itself to the public gaze, and some similar out-door treatment will mark the other end of the vista.

The terrace around the loggia being twenty-two feet above grade, and the loggia two feet higher still, an arrangement had to be made for planting on these levels. Concrete pits, with a separate drainage

system, have been provided for this purpose, and the trellises have been studded with an open cornice of outlookers from which vines will droop and sway, thus softening the lines of the great arch as seen from two storeys within.

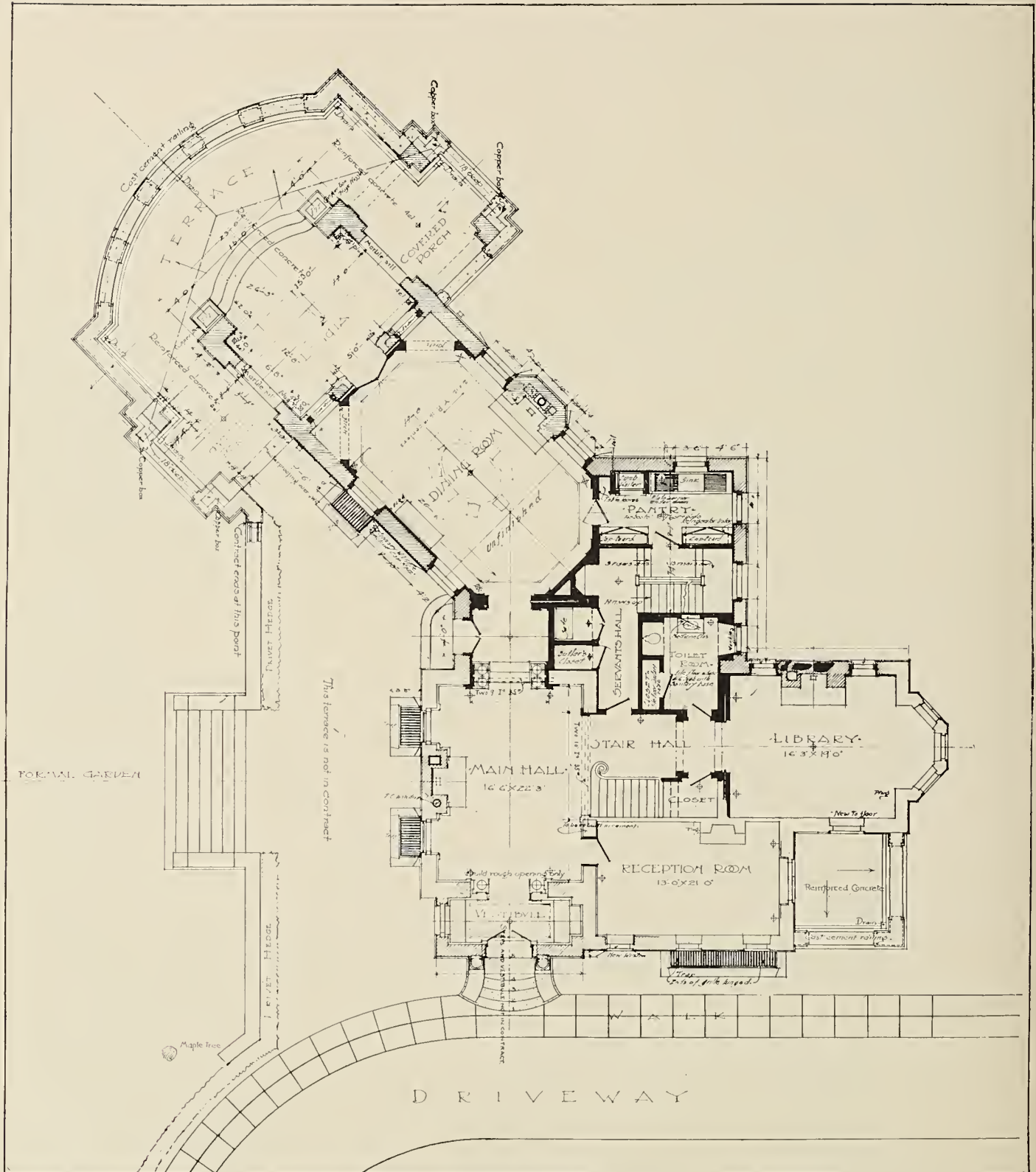
The dining-room, thirty-two by nineteen feet, and the main bedroom above, profit most by this arrangement, as both point to the view, the former with its casements opening wide enough to allow the dining-room table to be rolled out under the bowered loggia, and with two other long windows, sliding entirely out of sight, give an airiness to the room itself, which is wonderfully *al fresco*. Above, a commanding sheltered balcony with a rich wrought-iron rail, in front of wide casements, will offer a similar effect from the bedroom. A stone mantel over eleven feet high, in the dining-room, forms a focal point from the higher level of the entrance hall.

Turning to subjects of comfort, and waiving a description of the old parlor, now a spacious living hall, and such other features as a broad new stair, we start at the basement, where the arrangements are unusually complete. A large and lofty kitchen, with a spacious and well appointed kitchen pantry, a servants' dining-room and a servants' sitting-room will provide for the convenience and comfort of the domestics. A refrigerator room, or larder, is placed



SCALE ELEVATIONS

House and Garden



PLAN OF THE GROUND FLOOR

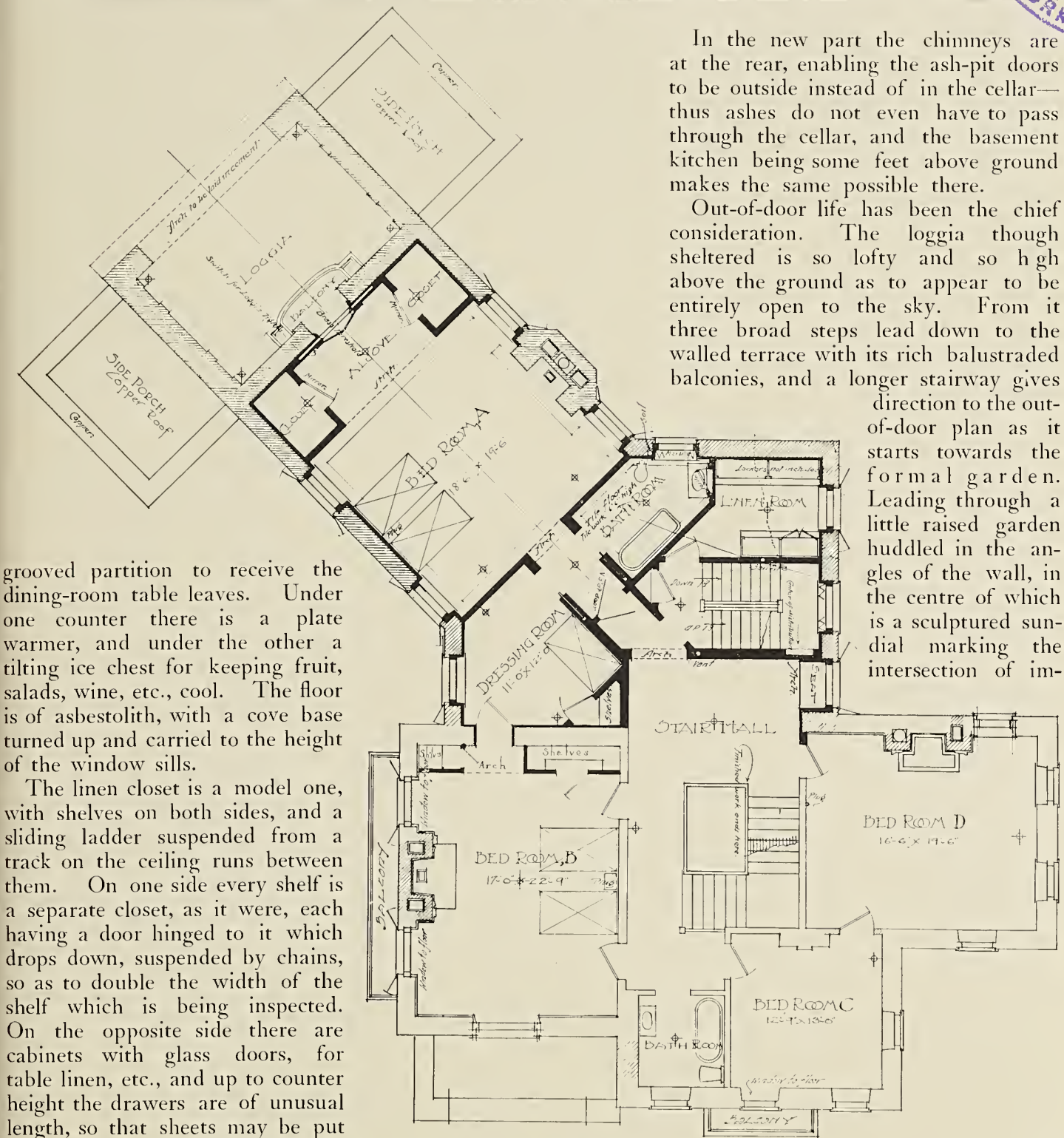
so that ice may be put directly into the refrigerator from the cellar, while egress to the room will be by a different route. Here a slate counter, on which to stand fruit, vegetables and game, is provided, and near the back stairs a similar counter is provided on which to clean lamps, and under which a limited amount of oil may be kept. A wide back stair

affords direct communication with every floor, from the basement to the trunk loft, and is at the same time entirely isolated, thus separating the associations of the kitchen from the house.

The dining-room pantry has counters and china closets on both sides. In addition, there is a closet in which to keep a step-ladder and brooms, with a

COOPER UNION
NEW YORK

Additions and Alterations to an Old House at Chestnut Hill, Pa.



PLAN OF THE SECOND FLOOR

In the new part the chimneys are at the rear, enabling the ash-pit doors to be outside instead of in the cellar—thus ashes do not even have to pass through the cellar, and the basement kitchen being some feet above ground makes the same possible there.

Out-of-door life has been the chief consideration. The loggia though sheltered is so lofty and so high above the ground as to appear to be entirely open to the sky. From it three broad steps lead down to the walled terrace with its rich balustraded balconies, and a longer stairway gives direction to the out-of-door plan as it starts towards the formal garden. Leading through a little raised garden huddled in the angles of the wall, in the centre of which is a sculptured sundial marking the intersection of im-

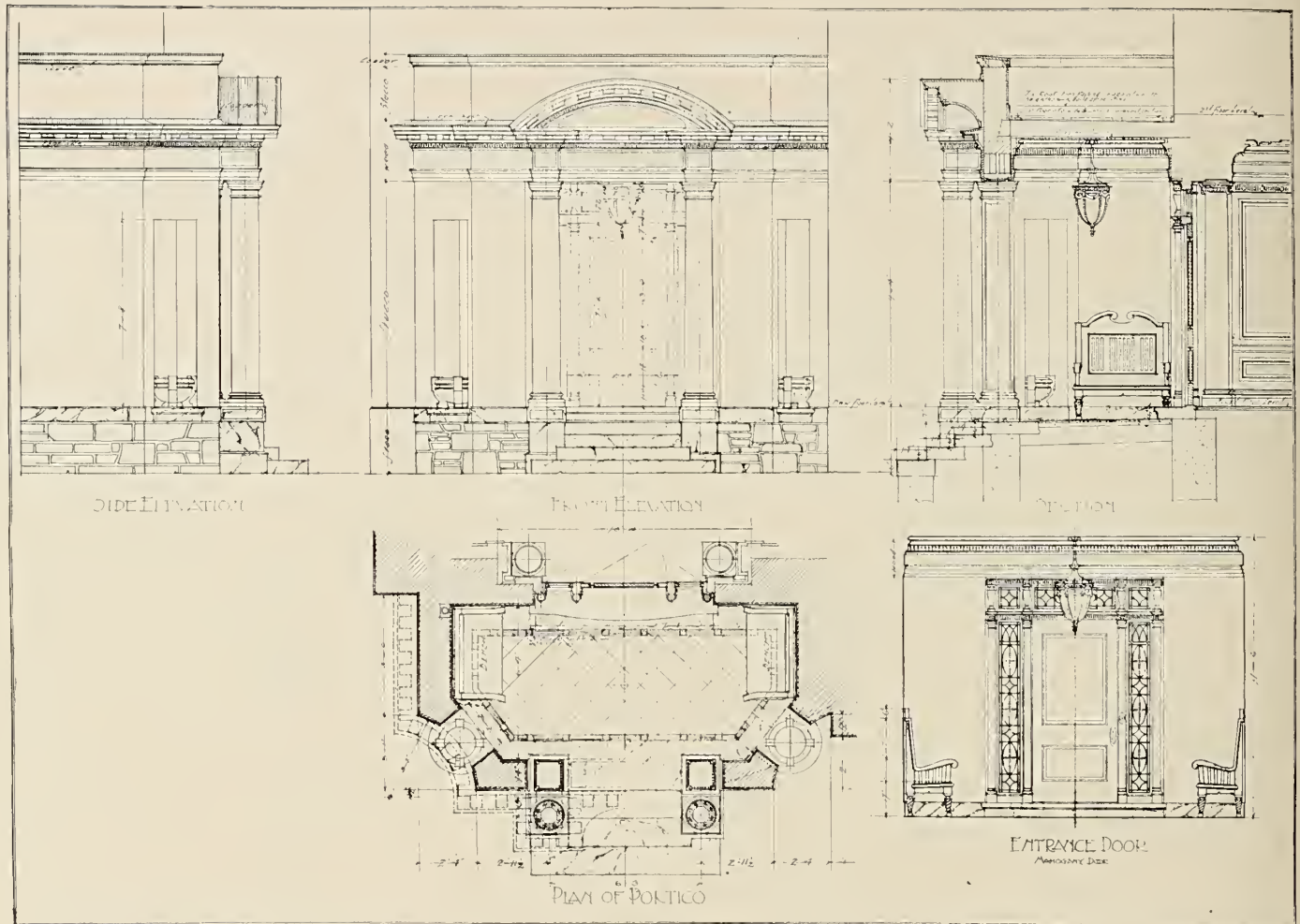
grooved partition to receive the dining-room table leaves. Under one counter there is a plate warmer, and under the other a tilting ice chest for keeping fruit, salads, wine, etc., cool. The floor is of asbestolith, with a cove base turned up and carried to the height of the window sills.

The linen closet is a model one, with shelves on both sides, and a sliding ladder suspended from a track on the ceiling runs between them. On one side every shelf is a separate closet, as it were, each having a door hinged to it which drops down, suspended by chains, so as to double the width of the shelf which is being inspected. On the opposite side there are cabinets with glass doors, for table linen, etc., and up to counter height the drawers are of unusual length, so that sheets may be put in them without unnecessary folding, and on account of the great weight of their contents, these run on ball-bearing wheels.

Another feature is a moth-proof closet for curtains, equipped with long round ash poles, which are placed at intervals of about a foot apart on overhead racks, so that it is possible to lay curtains over the poles in an adjoining room and then carry them into this closet on the poles, which are then set in the racks—thus enabling the curtains to be stored without folding.

portant vistas, this place serves as a vestibule to the more elaborate garden on the hillside, whose pergola and two stone garden houses develop to the right and left of the main view line as seen from the loggia far above.

In the tight embrace of this smiling composition is a reflecting mirror, which some day may illumine the loveliness of the garden at night by means of an electric fountain. In the planting around the basin



DETAILS OF THE ENTRANCE PORCH

is a riot of bright flowers in little beds divided by brick paving, and from under the welcome shade of the vines festooning the pergola the best views of the house show in succession, while in other directions a pastoral vista up and down a beautiful mowed green

valley, leave a reposeful feeling upon the tired mind.

In short, the charm of the unexpected pervades the place. Its delights are not for those on the street as it does not entice by any bold appeal but has rather the true seclusion of an out-of-door home. A. K.

TESTING CHINESE INK

THE best method of testing the tinctorial values of the different inks is to grind up equal amounts with equal quantities of water, applying the liquids with a full brush to Whatman paper pinned on a sloping drawing board. When the first color strip is dry, a new one is painted over it, so that a small portion at the end of the first coating still remains untouched. This is followed by a third, fourth, and fifth coat, each falling short of the preceding one, until finally there is a color scale, one end of which has the faintest tint while the other end is strong black.

Comparative results thus obtained show that inks with the best reputation are actually the best in practice. The cheaper qualities have not nearly so

great a covering power, and often contain irregular particles of carbon, giving rise to streaks under the brush. They also lack the brilliancy and purity of tone possessed by the better qualities.

There is but little difference in the composition of the various grades of Chinese inks. Those examined by the writer all contained about 55 per cent. of carbon and about 9 per cent. of moisture, the remainder consisting chiefly of the glue. The differences in the results obtained in practice must be attributed to the degree of care taken in the collection of the lamp-black, and to the thoroughness of the incorporation of the pigment with the glue.—*The Art Workers' Quarterly*.

THE PLANNING OF OPEN SPACES IN THE CITY

BY JOHN W. SIMPSON

A PAPER READ BEFORE THE ROYAL INSTITUTE OF BRITISH ARCHITECTS

IT may be stated, without fear of contradiction, that while such matters as public health, control and acceleration of traffic, improvement of ground values, restrictive Building Acts, and the like, have been exhaustively treated (and that to the public advantage), the artistic side of city planning has been almost entirely neglected in England, and I do not suppose that our authorities even realise its existence. The laying out of new streets and roads is nowadays looked upon as purely technical engineering. It was not thus that the cities were created which are still the wonder and delight of the civilised world.

The point of view of the artist is, therefore, that to which I invite your attention; and in doing so let me affirm our position by pointing out that art is a real and living force, demanding full recognition of all practical considerations which affect it. The finest art, then, is that which most completely and most beautifully solves the conditions of the problems presented to it. The leading canons of composition are common to all the arts, and chief among them is that which insists upon the subordination of parts in order to obtain vigour in the complete work. If your picture, your book, your drama, or your symphony, be throughout of equal force, the result is monotony. So with a city, we must husband our resources if we are to obtain an artistic whole. If we scatter indiscriminately the material which makes for beauty (and for our purpose this material is represented by

the public buildings and monuments) it will be swallowed up in the general mass and fail of its full effect. In this, as in many other matters of art, we have lost sight of that tradition from which all advance must be made, and without which none is possible.

The Greeks in the Acropolis, the Romans in the Forum, gave us a model for all time of the way to concentrate the forces at our disposal for the beautifying of a city. Contrast the effect of such spaces, enclosed by splendid edifices and adorned with countless masterpieces of plastic and architectural art, with the forlorn bronze figure stranded on its pedestal amid a tearing stream of traffic, which represents the modern idea of a public monument. Its very costume strikes a jarring note in such surroundings, instead of recalling grateful memories of a personality; none may pause to study it but at his proper risk of life; and, with a disgusting contempt of his dignity, the guardians of a hero's memorial have now discovered in it the incongruous site for a public convenience.

The "place" of mediæval and Renaissance times is the direct descendant of the antique Forum. I use the term "place" because our nearest English word "square" connotes quite other associations, and is inaccurate in its implied regularity. The ancient "place" was rarely either regular or square.

It is curious to reflect how entirely the "place" is ignored in our modern city plans for extensions and improvements. The shapeless and congested space where many arteries of traffic meet is accepted without protest as its successor. Granted that the changed conditions of public life render the "place" no longer necessary as a common centre of exchange and commerce, it may yet be well to examine our fathers' works and save of the artistic heritage what may be adapted to our circumstances. We cannot assert that Ludgate Circus is more beautiful than the Sig-

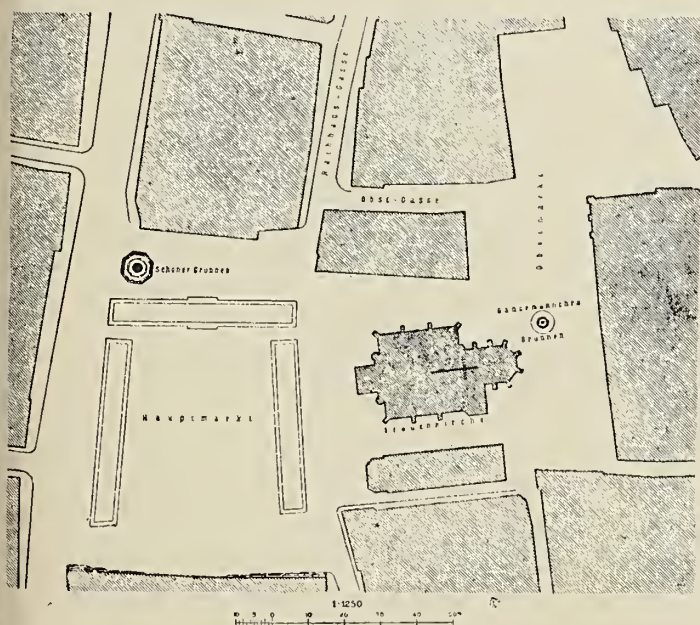


FIG. 1—NUREMBERG

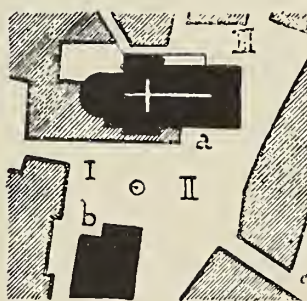


FIG. 3—PERUGIA
I—Piazza del Vescovato. II—Piazza di S. Lorenzo. III—Piazza del Papa.
a—Duomo. b—Palazzo Comunale

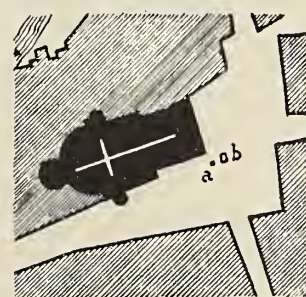


FIG. 4—PADUA
Piazza del Santo. a—Column. b—Statue of Gattamelata

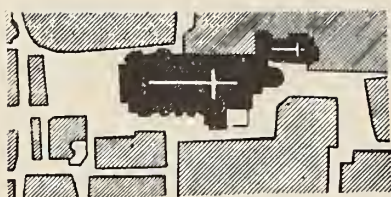


FIG. 5—VERONA
Piazza del Duomo



FIG. 6—PALERMO
S. Cita

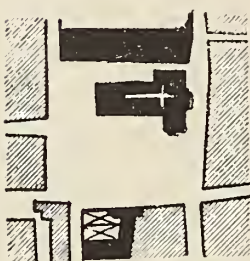


FIG. 7—LUCCA
S. Michel



FIG. 8—VICENZA
Piazza del Duomo

norica at Florence! Is the fault entirely that of modern conditions? May it not lie with the absence of that artistic thought which went to the making of the former?

If we study the plans of ancient "places" we shall find that, despite their apparently aimless irregularity, they were in fact constructed upon definite principles. And first let us notice that the statues, fountains, and other monuments were placed, not in the centre of the space as now, but at the sides. That fountains should be placed beside the beaten track-

way where animals may slake their thirst is natural; the Schönerbrunnen fountain at Nuremberg [fig. 1] is a well-known instance. They will be found similarly placed in the Signoria at Florence, in front of the Palazzo Commu-

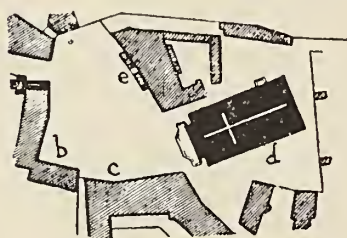


FIG. 9—PISA
b—Palazzo Vecchio, c—Palazzo del Podesta.
d—S. Stefano, d—Palazzo dei Anziani

nale at Perugia [fig. 3] and many other places, but rarely or never in the axis line of the palace or square. The position of Donatello's equestrian statue of Gattemala beside the church of St. Anthony of Padua [fig. 4] is pointed to by Sitte as most instructive. "If," says he, "one at first observes with surprise how it differs from those advocated by our stereotyped modern systems, one is quickly struck by the superb effect of the monument so placed," and you no longer wonder at its orientation and other unconventionalities. As the Gattemala and the little column stand at the side of the entrance to the church, so the obelisks and statues of the Pharaohs rose beside the doors of the temples.

Another point to be noticed is that the ancient

churches in Italy were most often engaged on one or more sides with other buildings, and we shall see how this tended to produce those groups of open places which give such charm to the buildings. At Padua we find this in the plan just referred to, and you will note the large space formed in front of the entrance, giving value to the dominating façade and doorway. I give another instance at Verona [fig. 5], and one with the "place" at the side of the church, which is more unusual, at Palermo [fig. 6]. While on this point it is interesting to note that at Rome, out of two hundred and fifty-five churches forty-one are attached on *one* side only to other buildings, ninety-six abut on *two* sides, one hundred and ten are engaged on *three* sides, two on *four* sides, and six only stand entirely free. Of these six, two are modern Protestant buildings, and the other four are surrounded by narrow streets.

At Lucca [fig. 7], Vicenza [fig. 8], and Pisa [fig. 9] we have instances of churches standing free, but you will observe that the same rule is applied to them as to the monuments: they are not in the centre, but upon the sides of places of moderate size, and gain vastly in effect by their position. The modern taste is to strip these old masterpieces of their surroundings, to their infinite detriment: their frames were designed for them, and cannot be removed without destroying valuable qualities in the work so treated. Baumeister indeed enunciates as a principle: "Old buildings should be preserved, but they must, so to speak, be removed from their shells and restored!"

A most important feature in the plan of the old public place is that it was enclosed, and this is a principal element of its charm. No mere open space between streets will give it—the appearance of an unbroken frame of buildings is essential. I say appearance, because the opening of side streets upon the old "places" was always most carefully contrived so as to avoid a gaping breach in the continuity of the frame.

Two typical instances are those of the Piazza Grande at Parma [fig. 10] and the Piazza del Duomo at Ravenna [fig. 11]. The latter illustrates very clearly a remarkable feature of the ancient "place,"

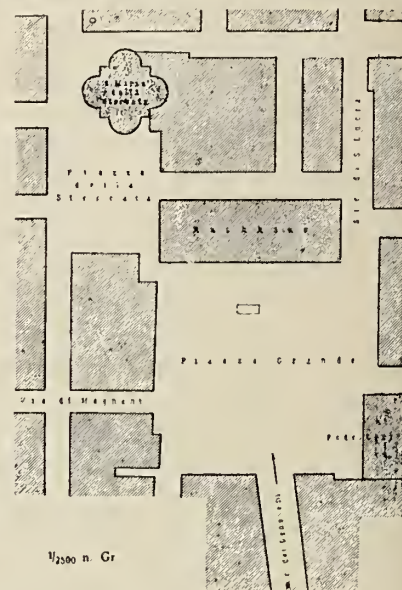
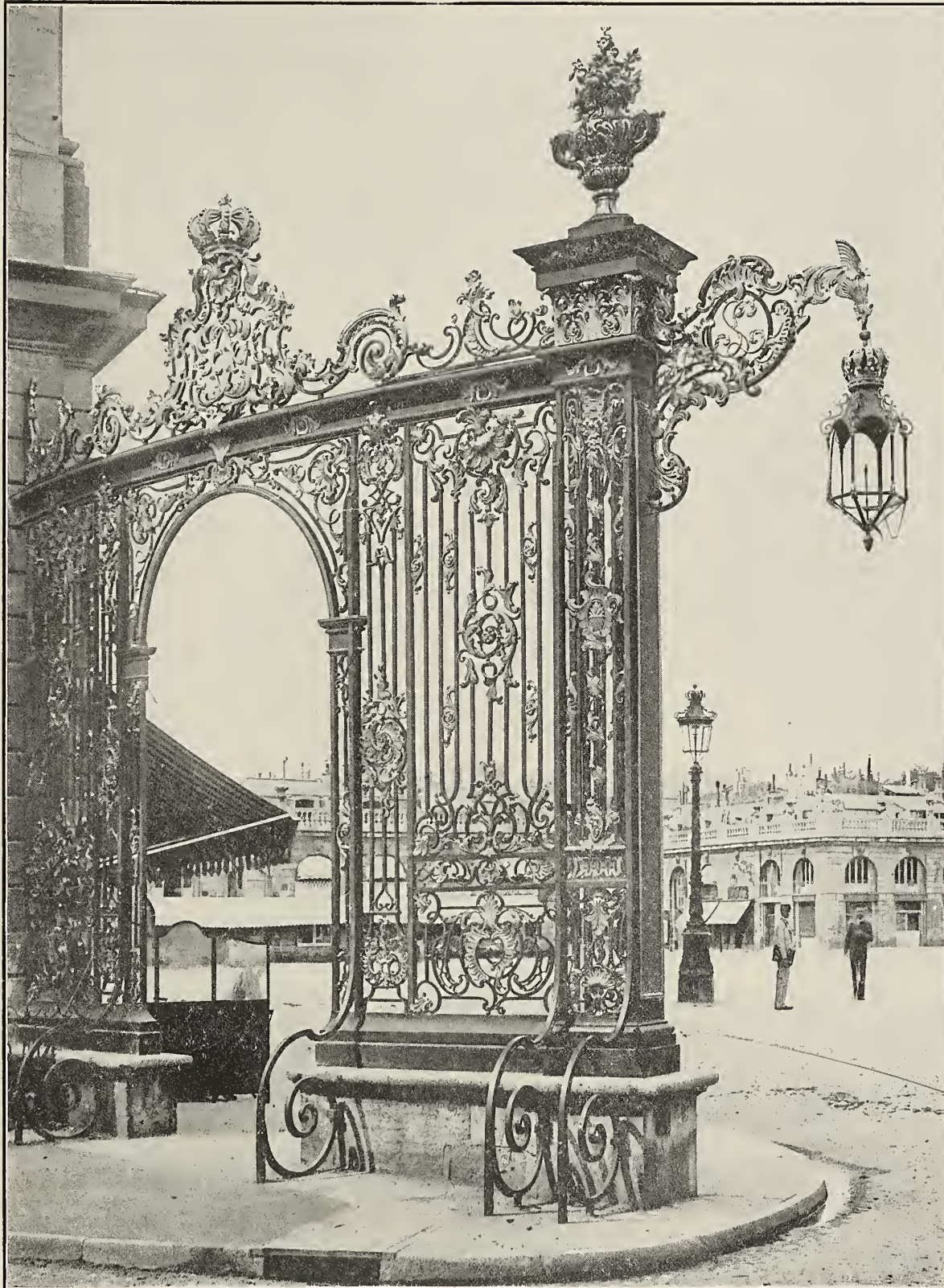


FIG. 10—PARMA
Piazza Grande



ENTRANCE TO THE PLACE STANISLAS, NANCY

which Sitte calls the plan *en bras de turbine* [fig. 12]. It is repeated so frequently, more or less completely according to circumstances, that it may be considered one of the conscious or unconscious principles of the construction of ancient cities. The streets thus leading off perpendicularly instead of horizontally to the visual rays, the angle joints, so to

speak, of the frame are not obtrusive. The Piazza del Duomo at Pistoia [fig. 13] is another example.

The archway or colonnade is a feature employed with splendid variety of effect to complete the girdle of buildings in open spaces. The Piazza Signoria at Verona [fig. 14] is one of many instances, the hemicycle of the sixteenth-century Place de la Carrière at

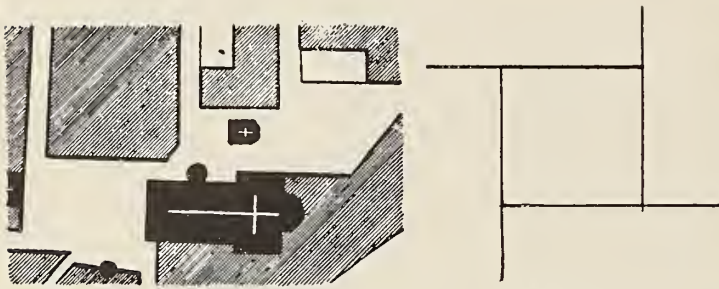


FIG. 11—RAVENNA
Piazza del Duomo

FIG. 12

Nancy another [fig. 15]; and you will notice the use of the great forged iron gates in the Place Stanislas (built from the plans of Héré in 1752-1756), close adjoining the last, to close the open angles which would otherwise have left the sides disconnected.

Here, then, are two leading principles of such plans. The monuments being placed at the sides, the centre of the square is left free, and the space is enclosed by a continuous frame of buildings. Next, the "place" must be proportionate in size and shape to the buildings to which it is to give value. Generally speaking, the space in front of a church or other vertical composition will be found to be *deep*, while that before a town hall or other building whose characteristic is length is usually *wide*.

The two piazzas at Modena [fig. 16] are typical and instructive. The Piazza Reale dominated by the Palace is wide and large, and the Piazza Domenico deep and small, and the effect of the one is enhanced by the contracting form of the other. The way in which the streets open upon them should be noted. The street passing in front of the church does not break the frame, since its direction is perpendicular to the visual rays of the observer, and those entering towards the façade do not destroy the effect, since they are at his back.

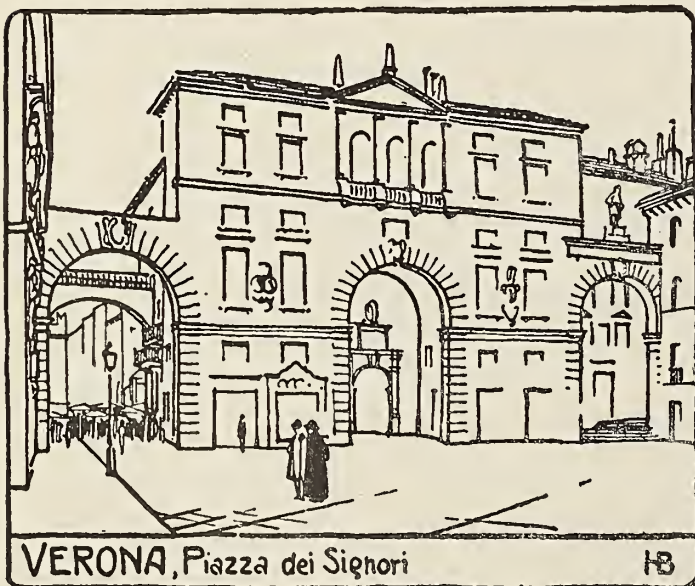


FIG. 14

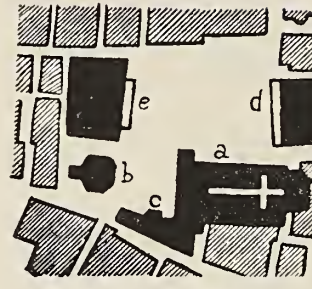


FIG. 13—PISTOIA
Piazza del Duomo. a—Duomo. b—Baptistery. c—Bishop's Palace. d—Palazzo Comunale. e—Palazzo del Podesta

Rome; and in the second place the idea of size in the square itself is not increased indefinitely by the increase of its proportions. Sitte remarks that if a narrow strip of ground be added to a small space the result is perceptible and often advantageous, but if the space be already large the addition is hardly to be noticed.

In connection with this subject of scale he gives a very striking illustration. "In architecture," says he, "the relation of proportions plays a far greater part than actual size. You may see in many public gardens statues of dwarfs over six feet high. There exist, on the other hand, statuettes of Hercules no higher than your finger; yet it is the larger of the two which is the pigmy, and the smaller the hero." The scale, then, of the "place" must be that of the chief buildings in it. We have all experienced the discomfort of the gigantic modern spaces across which we have hurried with our lives in our hands, a discomfort we never experienced in the smaller ancient squares. Yet the Piazza di San Marco gives an effect of space and grandeur quite lacking in modern examples, although its extreme length only equals the width of Russell Square.

The irregular plan of ancient "places" is a feature presenting some striking points of interest. Our forefathers, did not design streets

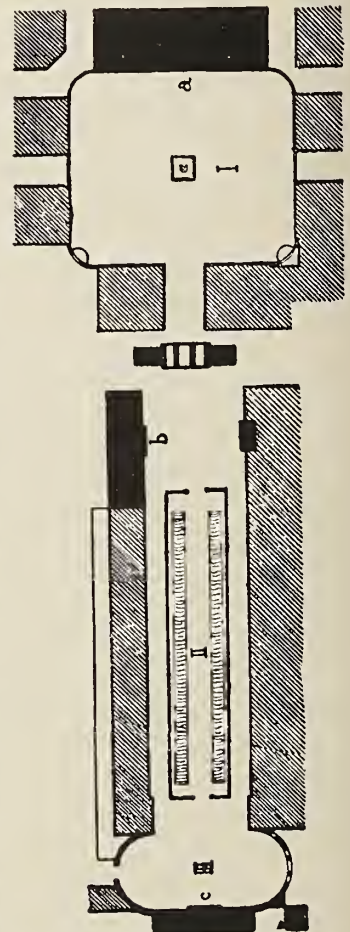


FIG. 15—NANCY
I—Place Stanislas. II—Place de la Carrière. III—Hémicycle. a—Hotel de Ville. b—Palais de Justice. c—Palais du Gouvernement

The Planning of Open Spaces in the City



FIG. 17
S. Pietro alle scale



FIG. 18
S. Vigilio



FIG. 19
V. d. Abadia



FIG. 20
S. Maria di Provenzano

SIENA

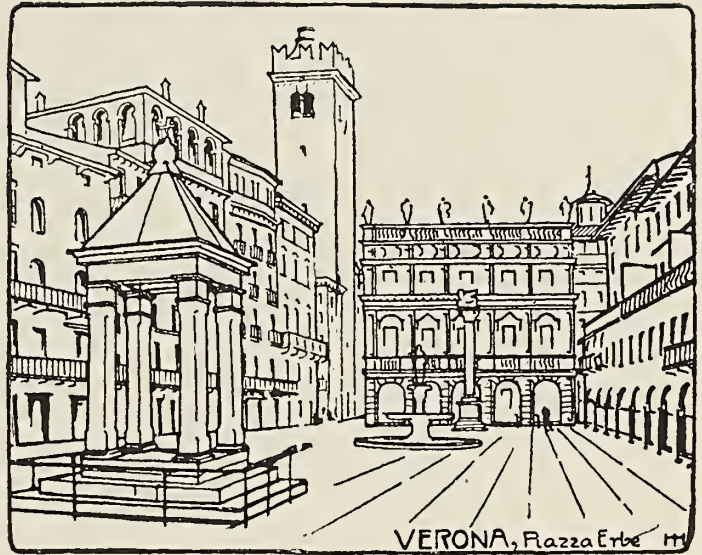


FIG. 23

in interminable right lines and squares of faultless regularity. Here are four squares in Siena [figs. 17, 18, 19, 20]. Yet these departures from our modern ideas of symmetry do not distress us in execution; they appear natural. There are sound optical reasons why these deviations from regular form, so obvious upon paper, escape our attention on the spot. The eye is disposed to disregard irregularities which are not forced upon it, and does not, even in the trained observer, calculate angles with exactitude. It is thus disposed to regard forms as more regular than they really are. The old plans were

theoretical symmetry, but they realised in practice what actually caught the eye.

Let us examine two well-known "places" and note the difference between their graphic representation and their real appearance. In the Piazza Santa-Maria Novella at Florence [fig. 21] the square has really five sides; but as we see but three sides at once in reality and the angle formed by the other two is always at our back, we conceive of it as having but four sides. The effects of perspective and the difficulty of judging the actual angle formed by the sides render it difficult to estimate the true form. The Piazza dell' Erbe at Verona [figs. 22 and 23] is another example of unnoticed irregularity. Nothing is really more difficult than to reconstruct in memory the plan of an

open space from a perspective view.

I will not trouble you with a disquisition on the laws of symmetry, and the reference of Vitruvius to the "proportio quæ Græce ἀναλογία dicitur" (III. i.). Sitte says bitterly, "The idea of symmetry is spreading in our time with the rapidity of an epidemic. It is familiar to the least cultivated folk, and each thinks himself qualified to say his word in such nice questions of art as that of laying out cities,

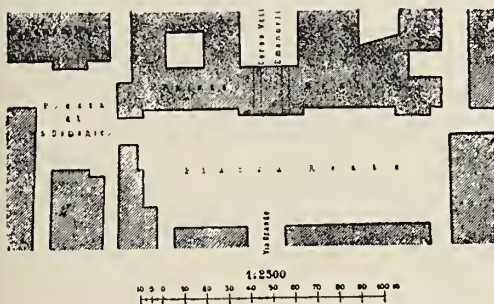


FIG. 16—MODENA
Piazzas Reale and San Domenico

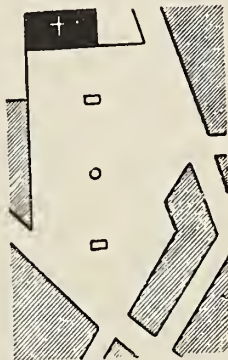


FIG. 21—FLORENCE
Piazza S. Maria Novella

not conceived with drawing boards and tee-squares; the builders did not, therefore, trouble about

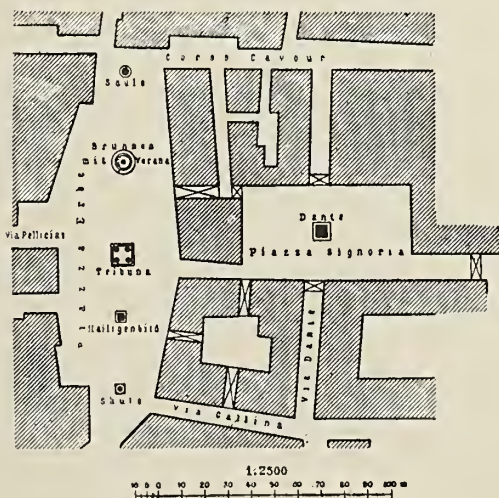


FIG. 22—VERONA
Piazzas Erbe and Signoria

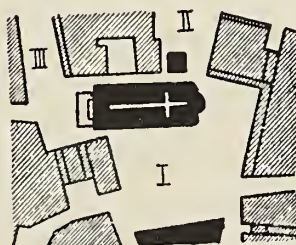


FIG. 24—MODENA
I—Piazza Grande. II—Piazza della Torre. III—Piazza della Legua

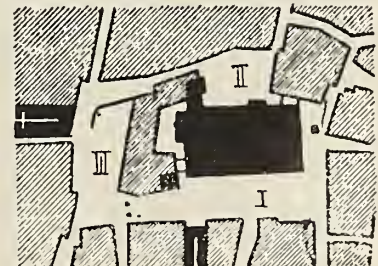


FIG. 26—VICENZA
I—Piazza dei Signori. II—Pescheria. III—Piazza della Biava

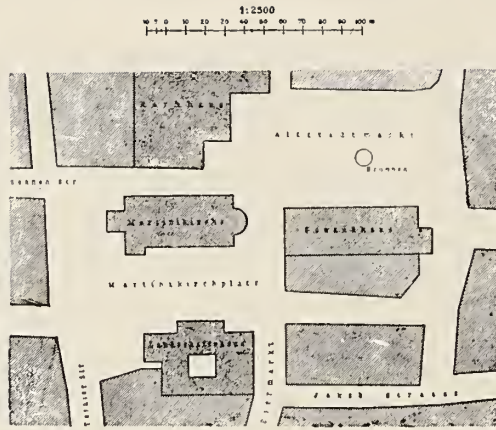


FIG. 27—BRUNSWICK

for he believes himself to possess the sole touchstone necessary—symmetry.”

The Bavarian law of 1864 has endeavoured to meet the artistic needs of the country by a direction to architects to “avoid in their designs all which may offend against symmetry and morality.” “It is not stated,” adds Sitte caustically, “which of the two misdemeanours is considered the more serious!”

I have already referred to the engagement of the old churches and palaces with other buildings, and to the resulting grouping of the “places.” Let me illustrate a few examples only. At Modena [fig. 24] the Piazza Grande opens up the lateral façade and apse of the Cathedral. It forms a complete design, and is connected to both the Piazza della Torre and the space before the west front, but without forming gaps in the frame. The former “place” is of course intended to give a perspective upon the beautiful campanile and enhance its effect. Remark, too, the street leading up to the principal entrance, a very favourite effect, of which the Église Notre-Dame at Bourg offers a well-known instance.

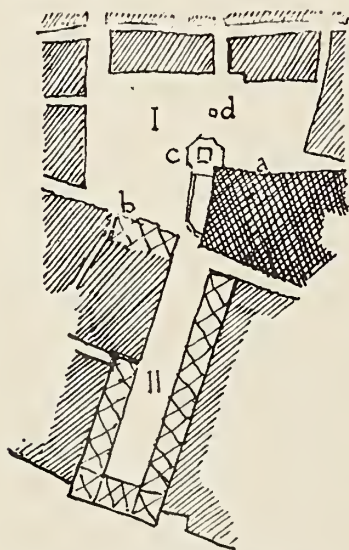


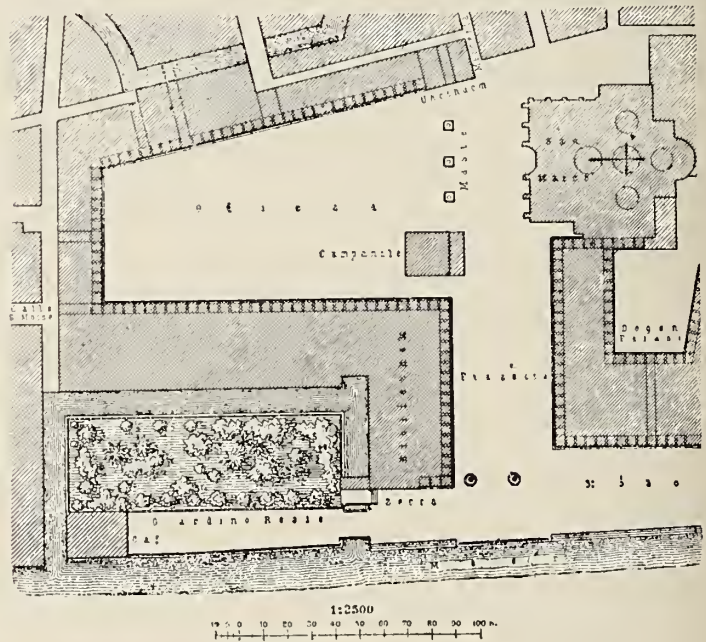
FIG. 28—FLORENCE

I—Signoria. II—Uffizi. a—Palazzo Vecchio. b—Loggia dei Lanzi. c—Fountain and statue of Cosimo I.

At Perugia we find the Piazza S. Lorenzo [fig. 3], at Vicenza the Piazza dei Signori [fig. 26], each with its characteristic secondary square. At Brunswick [fig. 27] there is a most interesting grouping of buildings and squares. The church of St. Martin rises on one side with a deep “place” before its principal façade and a wide one on its lateral elevation, while the old Town Hall abutting on other buildings dominates

the Market Place. The Cloth Hall is thus also surrounded by squares whose buildings harmonize with its design. This beautiful composition is formed of intimately connected parts, and the effect of each square and of each building gains immensely thereby.

Examples could be multiplied indefinitely. Permit me, however, before leaving the subject to refer you once more to the Signoria at Florence [fig. 28], which, as you will see, has also its secondary “place” in the portico of the Uffizi. This Signoria is, from an architectural point of view, the most remarkable square in the world. Its form and size, contrasting with that of the Uffizi adjoining it, the disposition of its monuments and buildings, the way in which the streets deliver into it, are all admirably studied. As Sitte well says, “No effort is apparent, and the superb composition is admired without disturbing thoughts

FIG. 29—VENICE
Piazza di San Marco and the Piazzetta

as to the causes of its beauty.” Yet generations of great artists have occupied centuries in the making of this masterpiece.

Lastly, I shall ask you, with the principles we have deduced before you—the placing of monuments, the freedom of the central space, the enclosed frame, the absence of geometrical regularity, and the value given to squares by their combination with others of varying form and size—to examine the plans of the Piazza di San Marco and the Piazzetta at Venice [fig. 29]. Here you will find these principles exemplified with the most refined art.

The Piazza is a deep space in relation to St. Mark's and wide in relation to the Procuratie. The Piazzetta is wide as regards the Doge's Palace, and deep with especial reference to the splendid view of the Grand Canal and S. Giorgio Maggiore in the distance. Before the north side of St. Mark's extends

The Planning of Open Spaces in the City

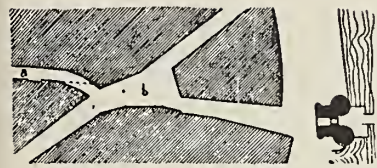


FIG. 32—BRUGES

a third little square. The Campanile, now, alas! fallen, mounted guard between the two chief places. Other causes than that of the actual plan have, of course, contributed to the extraordinary beauty of this combination: colour, sculpture, material have each inspired the scene. But you have only to imagine St. Mark's standing in the central axis of a large regular square, and the Library, the Procuratie, and the Doge's Palace, instead of being gathered in a single composition, distributed along a great street 150 feet wide, to realise that the masterly ordering of its parts is, above all, that which delights us in the splendid masterpiece we still enjoy.

I should have liked to put before you some examples of the great seventeenth and eighteenth century "places" showing the stately effects, though of a different kind, which are attainable by other methods than those we have studied. This pleasure I must forgo on this occasion, and the limits of time at my disposal allow me to offer you only one or two brief notes on street planning.

I will not trouble you with the theoretical systems which have each their advocates when a new city or the extension of an old one has to be planned. Rectangular, radiating, or triangular, they are one and all devoid of artistic interest; nor does such a consideration enter the minds of the engineers who design them. Their regular geometry even is only appreciable upon paper; it cannot be perceived by those who see the executed work. The one obvious idea

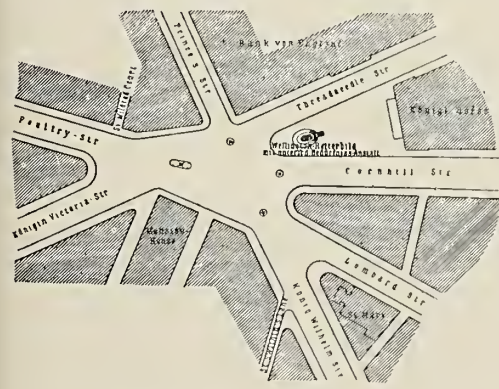


FIG. 31—LONDON
Mansion House

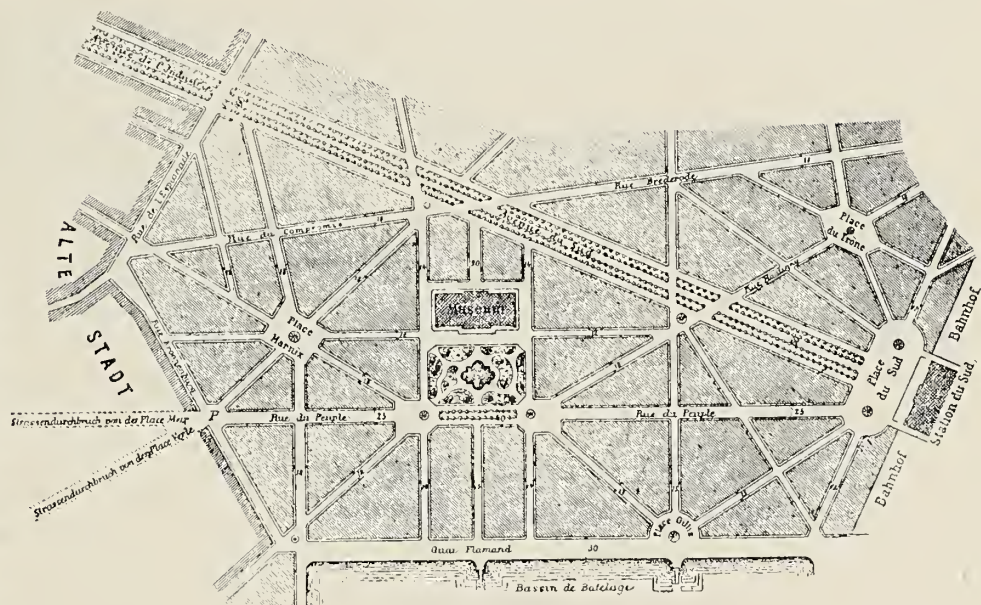


FIG. 30—ANTWERP
Quartier du Sud

is to construct the shortest route between any two points in order to save time in transit. Being, as I have said, inartistic, it follows also that they fail to solve even this practical problem in the best way. One example only by way of proof. In ancient towns you will find, first, that nearly all side streets enter main thoroughfares at right angles. In the modern triangulated and radiated schemes acute angles are inevitable, as may be seen by a glance at the plan of the contemporary "Quartier du Sud" at Antwerp [fig. 30]. In the second place the ancients avoided as far as they could the delivery of several arteries of traffic at the same point. This principle is now quite neglected, with the result that we obtain such hideous jumbles as the nameless space in front of the Mansion House [fig. 31].

Let us turn again to our forefathers whose work we may see pretty much as they left it at Bruges. Do not smile at the juxtaposition of the Mansion House and Bruges as incongruous; in its time Bruges was the commercial centre of Europe, with 200,000 inhabitants, and its streets and squares were planned for the requirements of a dense traffic. In the whole of Bruges you shall hardly find a street which forms an

acute angle with another, nor a crossing of more than one street with one other. Where a street approached another obliquely, or threatened a complicated intersection, its line would be curved so as to avoid acute angles and confusion [fig. 32]. Nowadays we should have carried a street (a) through in a straight line, and so have destroyed the little "place" (b), besides giving wasteful building blocks at the street corners.

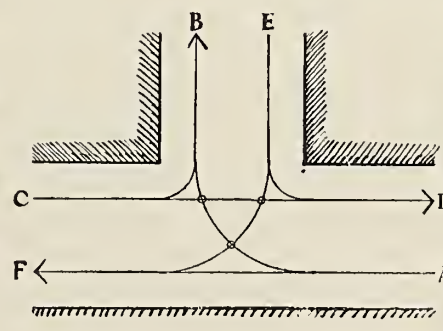


FIG. 33
Three directions from which carriages may arrive.
Three collision points

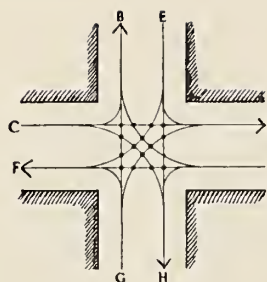


FIG. 34
Four directions from which carriages may arrive. Sixteen collision points

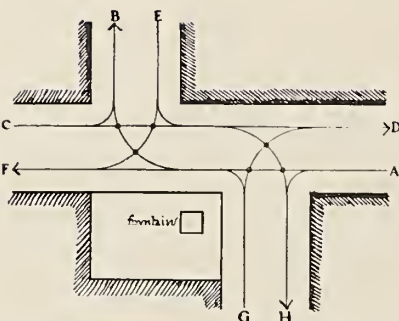


FIG. 35
Four directions from which carriages may arrive. Six collision points

If you consider that the chief object of modern street-planning is to save *time* in getting from one point to another, and not merely to construct the geometrically shortest routes between them, you will understand why I have taken you back to Bruges and the fourteenth century in search of guiding principles. Let me show you an instance [fig. 33]. Taking the first diagram of a side street opening into a main street, it will be seen that there are six possible routes for vehicles A B, A F, C B, C D, and E F, E D. There are three possible points of collision in these trajectories; three points where, if two vehicles approach at the same time, one must slow up or stop to allow the other to pass. If the first street is continued across the second [fig. 34], we obtain twelve different routes, three alternatives from each of the four possible directions, and this, you will see, gives no fewer than sixteen collision points. But let us break the axis line [fig. 35] and form a little "place" such as you will find by scores in old towns, and confess which is the more scientific scheme from the point of view of

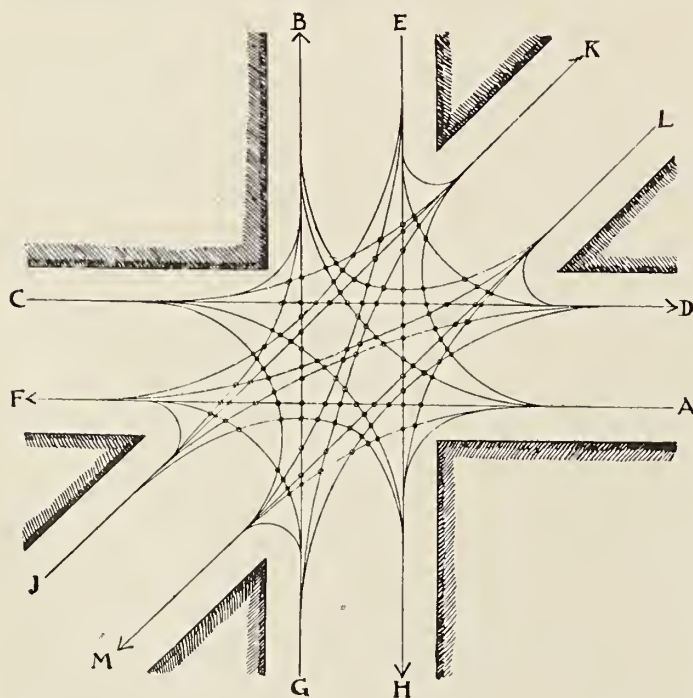


FIG. 36
Six directions from which carriages may arrive. One hundred and twenty collision points



FIG. 38—BRUGES
a—Halles. b—Cathédrale Saint-Sauveur. I—Grand Place. II—Rue des Pierres. III—Place Stevin. IV—Rue du Sablon

the traffic. Or, if this is not convincing, add but one more street to your crossing [fig. 36] and work out the result. Five possible routes from each of six possible directions and no fewer than one hundred and twenty actual collision points, apart from tangential accidents such as may well happen on such routes as L F, J D.

The principle of framing the view by enclosing it and preventing distracting perspective is carried out with as delicate an art in the plans of ancient streets as we have already seen it to have been in those of open places. The more limited the impression the more complete is its effect was the sound axiom of art which, consciously or by tradition, guided the old street builders. The gentle curvature of their lines closed in the perspective and offers to the eye fresh pictures at every step. Now, of course, at great and wasteful expense these windings are daily destroyed in order to obtain a mechanically regular alignment.

There is no reason, either practical or artistic, why our streets should have monotonous parallel sides. Take, as an example, the characteristic little "Rue St. Amand" at Bruges. Not only is such a varying line picturesque and advantageous to the buildings, but it affords exactly those spaces for the cab-stands, telephone and fire-escape kiosks, and other constantly increasing requirements which are difficult to provide for and cause obstructions in uniformly regular streets. Violent bends are not necessary; a slight curvature or displacement of the axis line will produce the happiest effects. The concave line of frontage is the most valuable in improving the appearance of a street, and it should be broken as little as need be; the convex side is less disturbed by openings in it, but is less favourable for important façades, as the field of vision is more limited in that direction. If the street must be straight it should not be too long, for the continued view of the same distant objects produces a sense of fatigue and failing interest. Excessive length, moreover, in a straight street leaves the wayfarer exposed to all the discomfort of sweeping winds and their consequent clouds of noisome dust.

Sitte has selected the "Rue des Pierres," also at Bruges [fig. 38], for an interesting analysis as illustrating the principles we have deduced. It leads, as the plan shows, from the Grande Place to the Cathédrale St. Sauveur, being continued thence to the station by the "Rue du Sablon." It is slightly undulating, and in the first part of the street the right side is concave.

The Planning of Open Spaces in the City

Beyond the Place Stevin, its direction changes to the right, and it is the left side which develops the concave line. The view [fig. 39] is taken going from the Grande Place before reaching the Place Stevin. This, conformably with ancient use, is situated at the side of the street, and is not, as is nowadays customary, traversed by it. A market or meeting can be held there without disturbance, for it is out of the line of traffic for carts or pedestrians. Its being placed on the concave side of the street is exceptional, for, as I have pointed out, the ancients interrupted the concave side of a street, where the buildings are well seen, as little as possible; the break in the frame is more apparent there than on the convex side. Here the effect of the break is minimised by the Tower of St. Sauveur which closes in and dominates the picture. Turning backward, the view of the spectator is arrested by the belfry of the Market Place marking the other end of the street.

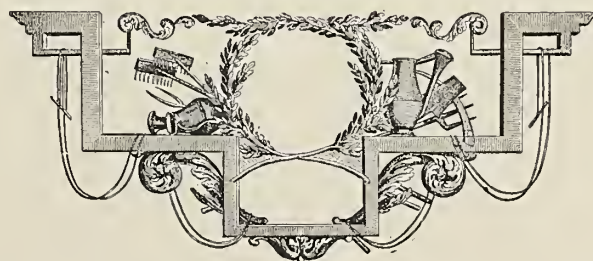
The special character given to the street by these two towers is due in the first place to its curvature; each tower thrusting its height above the roof comes unawares upon our wondering vision. To-day it is thought fine to see, hundreds of yards ahead, a single tower, standing geometrical, at the end of a street which we despair of reaching. The desire to display a lofty edifice or a natural effect to advantage is the reason for many of the windings of old streets. Note also, by the way, the fewness of the side streets which open into the "Rue des Pierres" and the absence of any cross street. This may perhaps be impracticable nowadays, but there should be found some happy mean between this old-world ideal and the mangled thoroughfares of our modern towns.

Here, at "Bruges la morte," I must leave you, unable, as I forewarned you, to do more than touch on one or two outlying points of my fascinating subject. Is it hopeless to suppose that in time our authorities may perceive that mere pulling down, aligning, and widening of streets will never meet our traffic requirements, and that what is needed is artistic and considered planning? To the Institute students



FIG. 39

especially do I commend this problem. Let them not be content to continue by mere tradition the measurement and study of the individual building and its details, important though these be. There lies a rich reward for those who will consider the combination, construction, and grouping by which effect is gained; and our Prizes Committee might perhaps judiciously stimulate synthetic as well as analytic investigation.—*Journal of the Royal Institute of British Architects.*





The Garden Front

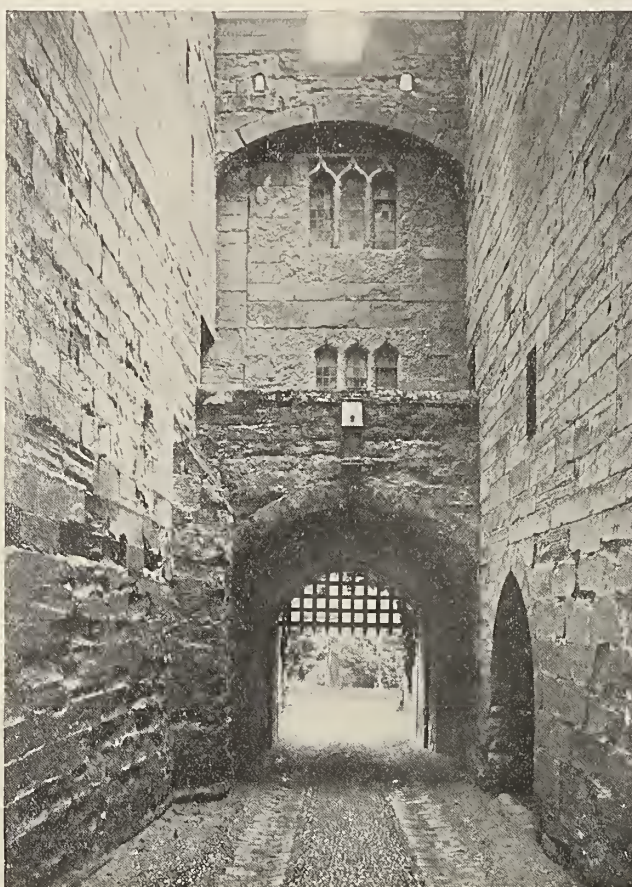
HOUSES WITH A HISTORY

WARWICK CASTLE

By P. H. DITCHFIELD, M.A., F.S.A.

FEW of the historic houses of England can compete with Warwick Castle in regard to either its natural beauty, or its wealth of historical associations. It possesses all the characteristics of a mediæval fortress of great strength and grandeur, and may be selected as one of the best examples in England of the castle of ancient days which played no inconsiderable part in the times of civil strife and in the political revolutions of our country's annals. Most of our castles are in ruins. They were held by Royalists in the great Civil War, and were "slighted" by Cromwell in order to prevent them from proving themselves thorns in the sides of the Parliamentary party. Warwick, having been held by Lord Brooke, who fought on Cromwell's side, was spared, and therefore retains to-day all the features of its former greatness, a delightful study for the student of the military architecture of the Middle Ages. It has an ancient lineage. Ethelfleda, daugh-

ter of King Alfred, (according to Dugdale) in the year 915 A. D., made a strong fortification here, called "the Doungeon" for the resistance of the enemy, upon a hill of earth artificially raised near the riverside. "The enemy" were the Danes, who attacked Warwick in 1016, and well-nigh destroyed the fortress of Alfred's martial daughter. The Conqueror, who had a keen eye for positions of natural strength or military importance, ordered Turchel to fortify the town and castle of Warwick. Various sums were spent upon the repair of the walls and the maintenance of the garrison in the reign of Henry II., Richard I. and John; but Simon de Montfort paid a surprise visit to the castle held for the king by William Mauduit, Earl of Warwick, and wrought such effectual destruction that nothing of value was left save the herbage in the castle ditches. This earl, like several of his successors had no children, and the castle and title passed to the powerful Beauchamp family.



THE ENTRANCE—INTERIOR

Warwick Castle



THE CASTLE FROM THE MOUND

Guy de Beauchamp, with other barons, seized the much hated Piers Gaveston, favourite of Edward II., and brought him as a prisoner to the castle. This wretched person had dared to style the great baron "The Black Hound of Arden." The Black Hound caught his fox and lodged him in the dungeon of the Caesar's Tower. "Now you shall feel the hound's teeth," said the Earl to his prisoner who, after a mock trial, was beheaded at Blacklow Hill, where a monument marks his memory. To Thomas Beauchamp, Earl of Warwick and to his son, also named Thomas, who flourished in the 14th century, the castle owes much of its strength. The former erected Cæsar's Tower. He fought on the bloody field of Crecy where the Black Prince won his spurs, and also at Poitiers, and became rich with the spoils of war and the heavy ransoms of French knights and princes which fell to his lot. He built the church of St. Mary, and sleeps his last sleep in its choir. His son Thomas built Guy's Tower. Another tower tells of his prowess, the Beauchamp Tower in the Tower of London, which marks the site of his incarceration during the wane of royal favour. Richard, the son of the second Thomas, was a mighty warrior, a powerful and successful baron, foremost in valour in the field, a prince among knights. Many tales could be told of his might. The cognizance of the family "the Bear and the Ragged Staff" was borne in many a fray, and dreaded by every foeman. His son Henry ac-

tually attained to regal rank, and was crowned King of the Isle of Wight by his grateful sovereign Henry VI. Like the leaves of the forest, great families have their day, then wither and die. The Beauchamps pass, and the Nevils enter the lordly castle, and make it famous in English history. Richard Nevil, Earl of Salisbury, married Anne, the heiress of the Beauchamps, and is better known as "the King-maker," the powerful baron who had six hundred armed retainers, made and unmade kings, and brought to his castle Edward IV. a prisoner in 1469. Again the pageant passes. Barnet Field seals the fate of the King-maker. Troublous times are in store for the Earls of Warwick. A butt of Malmsey wine finishes the career of the Duke of Clarence, created Earl of Warwick by Edward IV., and his wife died suddenly, it is said, by poison. Here comes the hunchback Richard and is joined by his gentle queen, Anne Nevil, and in the hall of the castle he receives the ambassador of Elizabeth of Castile, as well as the envoys of the King of France and the Duke of Burgundy, who come to congratulate him on his accession. The Dudleys enter into possession of the castle. Some were beheaded, and Ambrose, known as "the good Earl of Warwick," the last of the race, who entertained Queen Elizabeth, died in his bed in 1589, and having no children, the title died with him. The castle was granted by James I. to Sir Fulke Greville, Lord Brooke, a costly present, as the buildings were so dilapidated that the

House and Garden

new owner had to expend £30,000 upon their restoration. Sir Fulke was a favourite of both Queen Elizabeth and James I., the friend and biographer of Sir Philip Sidney, whose shade still haunts Penshurst.

The earldom, however, was no longer conjoined with the ownership of the castle and property, but was granted by King James I., to Lord Rich, in whose family it continued until its extinction in 1759. The Lords Brooke in the mean time, continued to hold the castle. Sir Fulke was assassinated by his servant in 1628 after he had restored and beautified the castle. Robert, Lord Brooke, his successor, was a strong Puritan, who fell in the close at Lichfield when the Parliamentary forces were besieging the cathedral garrisoned for the king. On the site of the present orangery in the gardens of the castle stood an old timber framed house which was used as a Presbyterian chapel, where Lord Brooke listened to the discourses of Samuel Clarke the younger. Lord Northampton made a dash to seize the castle, the garrison of which was commanded by Sir Edward Peto of Chesterton. The king's forces were driven back. Sir Edward had hung woolpacks outside the gate house on great hooks, which still remain, to protect the walls from Lord Northampton's cannon-

balls. No royal standard waved on Guy's Tower, but a winding-sheet and a Bible in order to show to the enemy that the Puritan leader was ready to die for his faith. The Roundheads trembled for the fate of the Castle of Warwick; but it held its own, and Lord Northampton withdrew his troops discomfited.

After the extinction of the Rich family in 1759, the earldom was conferred on Francis Greville, Lord Brooke, and has remained in the family ever since, together with the noble castle which it is now our privilege to visit.

In the year 1634, three pilgrims set out from the city of Norwich on a tour through England. They are described as "the Captain, Lieutenant, and Ancient of the Military Company at Norwich," and they were wise enough to record their experiences. Happily their descriptions of the places visited have been preserved, and are now in the British Museum. Here is their impression of Warwick, "which for a fayre and stately castle may compare with most in England. It is most sweetly and very pleasantly seated on a rocke very high, upon that pleasant river, the Avon, that divides the shire in twaine: whether ye sumptuousnesse of the building with the richesse of the ffurniture, the pleasantnesse of the seat, or the strengthe of the brave ancient high towers with her



GUY'S TOWER

Warwick Castle

own defensive situation, exceeds, it is hard to be determined. At our first ascending entrance we passed over a large bridge and then through a strong double gate into a fayre courte leaning on either hand, a strong and lofty defensible tower, namely, Julius Cæsar's on the left and Guy of Warwicke's on the right.

"The castle is seated on the sayd river Avon. By it a second Eden, wherein is a most stately mount, which overtops and commands a great part of her owne and some part of four adjacent shires; and the whole hill and declining brow is so planted and furnished with beech, birch, and severall sorts of plum-trees, as it is more delightful and pleasant to ascend.

"By this large and pleasant peece of ground, which is adorned with all kind of delightful and shady walks and arbors, pleasant groves and wildernesses, fruitful trees, delicious bowers, oderiferous herbes and fragrant flowers, betweene the river and the high rocky foundations of the Castle, on the south side thereof, there are many rare and curious fish ponds, all made and hewn out of the solid rock of free-stone, like cisterns of lead, which are levell with the river, and supply'd with great store of good fish.

"This sumptuous stately building, this most pleasant garden, and these most delightful fish ponds were made thus rare and excellent at the cost and charges of that worthy and famous knight, her late owner and inhabitant, Sir Fulke Greville. And as at the last Castle (Kenilworth), we met with the high armor of that warrior Guy of Warwicke for his body, so here we saw that for his horn, his fearfull sword and dagger, the larger rib and tooth of the wild bore, which they call a dangerous beast that frequented the woods, the hills, and the rocks thereabout, which he encountered withall, and slew, if report passe for credit."*

I make no apology for extracting this long quotation from the excellent observations of "the Captain,

Lieutenant, and Ancient" of the worshipful Norwich Company. Their descriptive powers were so good, that the picture they drew for us forms a very accurate sketch of what we see to-day.

Admirably adapted for defensive purposes is the site of this castle, which crowns a lofty hill. Passing the porter's lodge we ascend the steep slope of the carriage drive which has been cut through the solid rock and is overhung with trees. Suddenly, as we gain the outer court of the castle, we see before us a grand view of the stupendous walls of the fortress with its lofty towers. A deep moat adds to the strength of the fortifications, formerly spanned by a drawbridge. There is a noble double gateway clad with ivy, flanked by towers. The portcullis still remains, and the four holes through which heated sand or burning pitch could be poured upon inconvenient visitors to discourage their attentions.

Entering the courtyard, we see on the left Cæsar's Tower and the front of the habitable portion of the castle, somewhat modernised, an extensive restoration of the Great Hall having been necessitated by the disastrous fire which broke out in 1871. On the right stands Guy's Tower, the Bear and Clarence Tow-



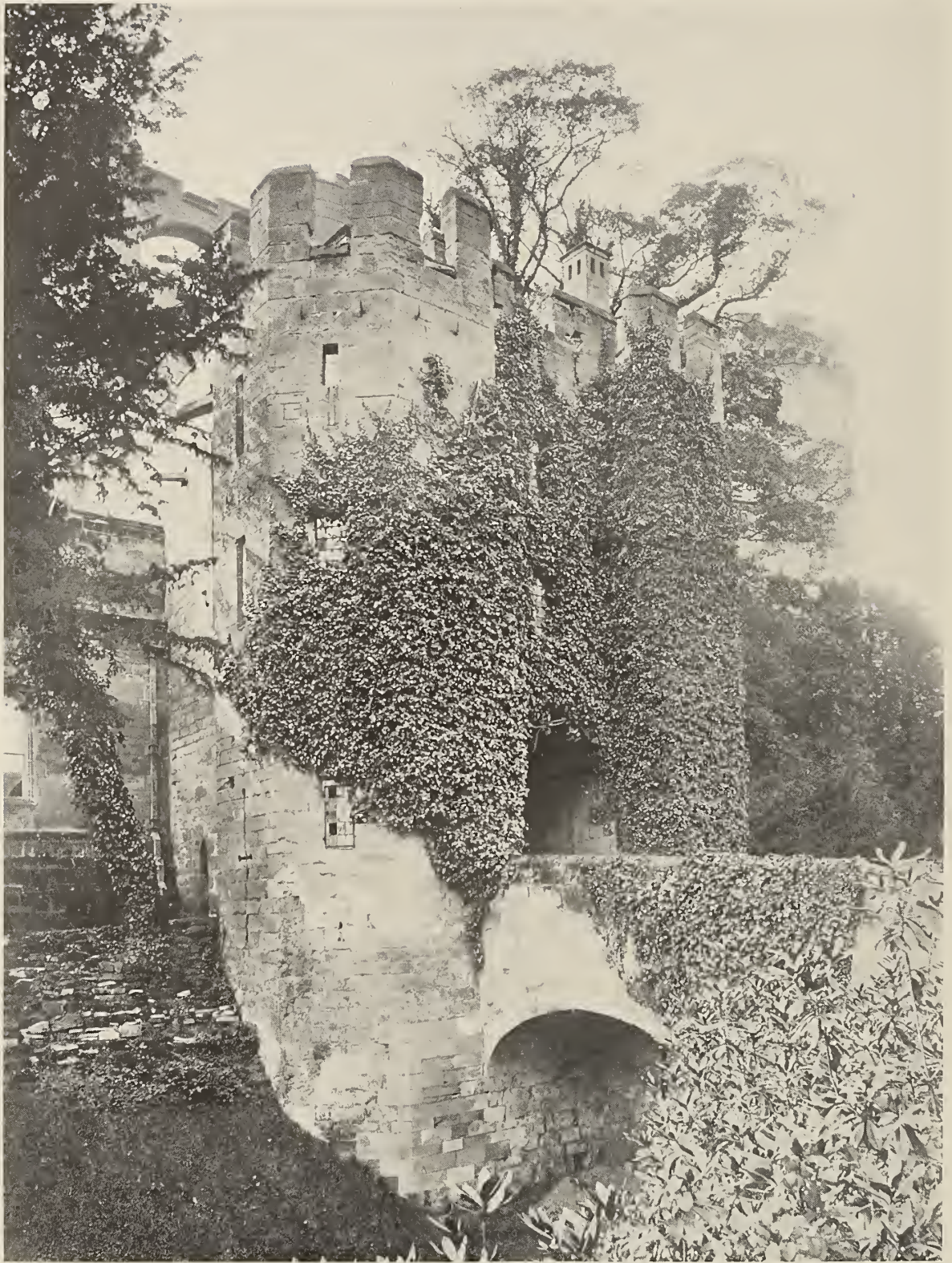
THE CEDAR DRAWING-ROOM

ers and the strong walls guarding the inner bailey court. A beautiful stretch of greensward covers the courtyard, and in front is the mound or keep where once stood the Norman fortress, and where Ethelfleda, the daughter of Alfred, raised her Saxon stronghold.

These towers are worthy of close inspection. Cæsar's Tower has nothing Roman about it except its name. Nor can it claim Norman origin. It was built, as I have said, by Thomas de Beauchamp in the 14th century. Its plan is polygonal with curved faces and machicolated with overhanging battlements. Its height is 147 feet. The base projects widely. There are four storeys. Its most interesting feature is the strong vaulted dungeon, the walls of which

* The legends connected with Guy, Earl of Warwick, who lived in the 9th century, are full of romantic interest. The minstrels in the Middle Ages used to tell of how he fought the Danish chieftain Colbrand, went as a pilgrim to the Holy Land, slew the dun cow, a ferocious beast, and a huge wild boar, and retired from the world, ending his life in a hermit's cave, which still bears his name, Guy's Cliff.

House and Garden



THE ENTRANCE GATE—EXTERIOR

have several curious inscriptions and rude carvings scratched by the poor prisoners who have been confined therein. There are several votive crosses and crucifixes, and amongst others the following verses:

MASTER JOHN SMITH, GUNER TO HIS
MAIESTYE HIGHNES WAS A PRISNER IN THIS
PLACE, AND LAY HERE FROM 1642 TELL TH
WILLIAM SIDIAE ROT THIS SAME
AND IF MY PIN HAD BIN BETER FOR
HIS SAKE I WOULD HAVE MENDED
EVERRI LETTER

Guy's Tower was built by Thomas de Beauchamp, the son of the builder of the former tower, in 1394. The Bear and Clarence Towers guard the entrance to the gardens; the former if not the latter, was erected by the notorious Richard, Duke of Gloucester, afterwards Richard III., and beneath it is a subterranean passage.

We must now "sound the warder's horn," or in

Warwick Castle

modern style ring the bell in order to gain entrance to the residential part of the castle. The whole of the eastern portion has been restored after the great fire of 1871. The main walls however, were too thick and strong to suffer greatly from the fire, which brought to light some of the old features of the chamber, disclosed some clerestory windows, and enabled the architect to reproduce with fair accuracy the design of the mediæval hall. The furniture, carpets, screens and flowers give it the appearance of a modern drawing-room rather than of the ancient hall which once witnessed the condemnation of Piers Gaveston, echoed with the sound of the feastings of the retainers of the Last of the Barons, and heard the snuffing, whining voices of the extreme sectaries of Cromwell's day. The whole castle is indeed a well-stored museum, replete with objects of antiquarian and historical interest, and abounding with paintings of important personages and family pictures by the great masters of the art. The hall contains many objects of supreme interest. There is some good Flemish tapestry of the 17th century, many suits of armour, the huge antlers of an Irish elk, measuring 10 ft. 9 inches, Queen Elizabeth's saddle on which she rode on her journey to Kenilworth, Cromwell's helmet, some crusader's armour, a Knight Templar's helmet, a doublet blood-spotted, in which Lord Brooke was slain at Lichfield in 1643, the mace of Richard III., Scottish claymores, a swivel gun taken from a French pirate off the Irish coast, armour worn by Montrose, some suits of armour of the 15th and 16th centuries, some horse armour of the 15th century, and that used by the "noble imp." Popular attention is always attracted to a huge cauldron made of bell-metal known as Guy's Porridge Pot. The large vessel holds 120 gallons, and is sometimes described as a punch-bowl. It is, however, conjectured that the pot was made for cooking the soldier's dinners by order of Sir John Talbot, who died in 1365. Guy's sword, a large weapon which really belongs to the time of Henry VIII., is also preserved, for the keeping of which William Hoggesson, Yeoman of the Buttery, received 2d. a day in the time of the last named monarch.

Before leaving the hall, we must glance through the deeply recessed windows, and see the magnificent view, the Avon flowing 100 feet below with its wooded banks, the remains of the old bridge over which Queen Elizabeth rode when she visited the castle, and the "new" bridge erected more than a century ago. It is a delightful prospect.

Then we traverse the fine suite of state apartments, first examining the red drawing-room, which contains Van Dyck's painting of Snyder's wife, the Marquis of Spinola by Rubens, Velasquez's Gotama, and the portrait of the present Countess of Warwick, a prominent lady in English society, socialistic politician, founder of the Ladies' Agricultural College at

Studley Castle, and an authoress whose history of her ancestral home is the standard work on the subject.

The cedar drawing-room, panelled with cedar-wood, beautifully carved by local workmen, and magnificently furnished, contains a series of portraits by Van Dyck, which includes the second Earl of Warwick of the Rich family (1642), Charles I., and his Queen Henrietta (the dress is said to have been finished by Sir Joshua Reynolds), James Graham, Marquis of Montrose, the Countess of Brignola and her son (brought here from the palace of the family at Genoa), the first Duke of Newcastle and Lely's Nell Gwynn. The mantelpiece of this exquisite room was designed by Adams and is said to be unique. There are valuable bronzes, Etruscan vases, and some beautiful cabinets.

The green drawing-room has a fine ceiling richly gilded. Here is the wonderful Grimani table which came from the palace of that family at Venice, portraits of Ignatius Loyola by Rubens, a Spanish warrior by Moroni, Robert Bertie, Earl of Lindsay, Thomas Wentworth, Earl of Strafford, and Prince Rupert, both by Van Dyck, and Lord and Lady Brooke.

Queen Anne's bedroom is hung with Gobelin tapestry, manufactured in 1604. The bed, hung with crimson velvet, and the furniture belonged to Queen Anne, and were presented to the Earl of Warwick by George III. Kneller's portrait of the Queen appropriately adorns the room. Queen Anne's travelling trunk is curious and interesting. There is a fine example of seventeenth century buhl work, consisting of silver and tortoise-shell inlaid.

We next pass into the Countess's boudoir, a charming little room which abounds with treasures of art and *vertu*. The walls are covered with silk tapestry and the ceiling was constructed in 1750. The pictures include Holbein's portraits of Henry VIII., Martin Luther, and Anne and Mary Boleyn, Lely's Barbara Villiers, Duchess of Cleveland, a boar-hunt by Rubens, and many others by well-known masters.

Lovers of ancient armour will find in the armoury passage many examples of supreme interest, including cross-bows, crusaders' armour, weapons from various countries, Moorish, Spanish, Indian, cedar brought from Palestine by the crusaders, Cromwell's mask, his armour and boots, a bugle taken from the battle-field of Edgehill, guns from the field of Waterloo, etc. Here is also a table which belonged to poor Queen Marie Antoinette.

The dining-room is a noble chamber, built by Francis, Earl of Warwick, about 1770. The furniture is French work, upholstered with appliqué embroidery, and there is a fine carving by Grinling Gibbons of the Battle of the Amazons. The pictures include the well-known equestrian portrait of Charles I. by Van Dyck, some Lions by Rubens, Augusta, Princess of Wales and George III. when an infant by

House and Garden

Phillips, Frederick, Prince of Wales by Richardson, Jansen's Duns Scotus and a portrait by Sir Philip Sidney. A rib of the fabulous dun cow slain by Guy of Warwick is preserved here.

The chapel has a very modern appearance. The Shakespeare room contains a collection of prints and works relating to the poet and the wonderfully carved Kenilworth Buffet representing in its panels scenes from Sir Walter Scott's romance on the visit of Queen Elizabeth to Kenilworth castle.

The visitor to the castle will retain a rare but perhaps confused vision of all kinds of rare treasures of art, "superb *garde-robes*, *encoignures*, cabinets, and tables of buhl and marqueterie of the most costly finish; splendid cups, flasks, and vases of ormolu, crystal, china and lava; Etruscan vases, marble and *pietra dura* tables; bronzes and busts displaying the utmost efforts of art; Limousin enamels, costly bijouteries and rare antiques," in addition to the priceless canvasses that adorn the walls.

Leaving the inner court, we pass through a port-cullised doorway across the moat to the gardens. The undulating ground of the moat has been laid out with much taste as a garden, and beyond are lawns girt with magnificent trees, oaks and elms, chestnuts, beeches and cedars of Lebanon. Then we come to the formal garden with its yews clipped into shape of divers birds, and flower beds lined with borders of box.

But the great treasure of the gardens is the famous Warwick Vase, made of white marble and preserved

in the huge greenhouse. It was fashioned by Lysippus, a great artist in the fourth century, B. C. The following appears on the modern base:

HOC PRISTINAE ARTIS
ROMANAEQ. MAGNIFICENTIAE MONUMENTUM
RUDERIBUS VILLAE TIBURTINAE
HADRIANO AUG. IN DELICIIIS HABITAE EFFOSUM
RESTITUTI CURAVIT
EQUES GULIELMUS HAMILTON
A GEORGIO III, MAG. BRIT. REX
AD SICIL REGEM FERDINANDUM IV LEGATUS
ET IN PATRIAM TRANSMISSUM
PATRIO BONARUM ARTIUM GENIO DICAVIT
AN. AC. N. CIC. DCCLXXIV.

From this lengthy inscription we gather that the vase was dug out of the ruins of the Tiburtine villa, the favourite abode of the Emperor Hadrian; that Sir William Hamilton, the ambassador of King George III. to Ferdinand IV., King of Sicily, took care that it should be restored and sent to England in 1774. It is a beautiful specimen of early Greek art, the carvings representing Bacchanalian symbols and vine leaves and grapes.

We might follow the dead earls to their last resting-place in the church of St. Mary's but time presses. Warwick Castle will live in our memories as a perfect example of a mediæval fortress, adapted to the needs of a modern mansion, and we are grateful that Time has dealt gently with its frowning battlements, and left us so much that recalls the historical associations that cluster around this fair mid-England stronghold.



FROM THE ISLAND

THE IMPORTANCE OF CEMENT AND ITS PRODUCTS IN HOUSE BUILDING—II.

BY J. M. HASKELL

On the Farm IN the May issue of "House and Garden" attention was called to the value of concrete as a building material on the farm. In the accompanying pages further illustrations of its wide application for this use are shown. Indeed it may be said that it is entirely appropriate for every structure the farmer may have occasion to build from the house to the pigsty. This is especially so when an ample supply of stone is not at hand, for to build of concrete would be cheaper than quarrying.

Silos See especially the illustrations of the silos and barn on pages 299 and 300 and of the interior of the cow stable on page 300.

Farmhouse On page 299 is shown another excellent type of bungalow farmhouse, and one of the interiors is also shown on the same page.

Greenhouse The greenhouse on page 298 speaks for itself, and in the beauty of its lines and general effect is an eloquent advocate for the cause.

Retaining Wall and Dam The sterner use of concrete is well shown on pages 298 and 299. The former is a dam in process of erection at Sprague's Falls, Maine, and the latter is the high retaining wall built as a preliminary to the vast operations on the site of the new Grand Central Station in New York.

Cement Block Building There is, however, another use of cement to be added to the versatile field of activity already illustrated but

which has not yet been mentioned. This is a method in which monolithic construction gives place to block construction. That is to say the concrete, instead of being used in mass and packed in successive shapeless units between plank molds, one after another, until the whole wall is formed of a homogeneous and monolithic mass, is cast in small, smooth molds of steel so as to form a series of blocks of moderate size.

These are allowed to harden, and when hard are taken to the building and there laid up with mortar in a similar way to cut stone. In short we have now to deal with blocks of artificial stone, and the laying of these concrete blocks is the duty of a stone mason with the same mortars and with the same methods as in ordinary masonry construction except that the blocks require no trimming to adjust them to their place, as they come to the work ready to set. The mortar used should be cement and lime mortar, and the outside joints may be repointed if desired, though this is not necessary. The cement blocks are made hollow to allow air spaces for drying the wall, and it is well not to fill entirely the bed joints so as to leave air spaces between the rows of blocks.

Surfacing the Wall When the wall is built, any irregularities in color, if objectionable, may be overcome by a wash composed of cement water and lime paste in the proportion of one part of Portland cement to one-fourth part of lime paste, diluted with sufficient water to make a liquid wash.

This acts as a waterproofing agent also, increasing the impermeability of the blocks. The interior of the house and the floors are treated in the same way as where the monolithic system is used.

Making the Blocks The concrete building blocks are, as I have said, not made by unskilled labor in wooden molds, but in special machines using polished steel molds to form the

blocks. An excellent machine of this description is shown on page XVII of the May issue of "House and Garden."

It has an abundant capacity for producing such blocks in quantity, and can make blocks of any special shapes or sizes up to three feet long or for columns up to seven feet.

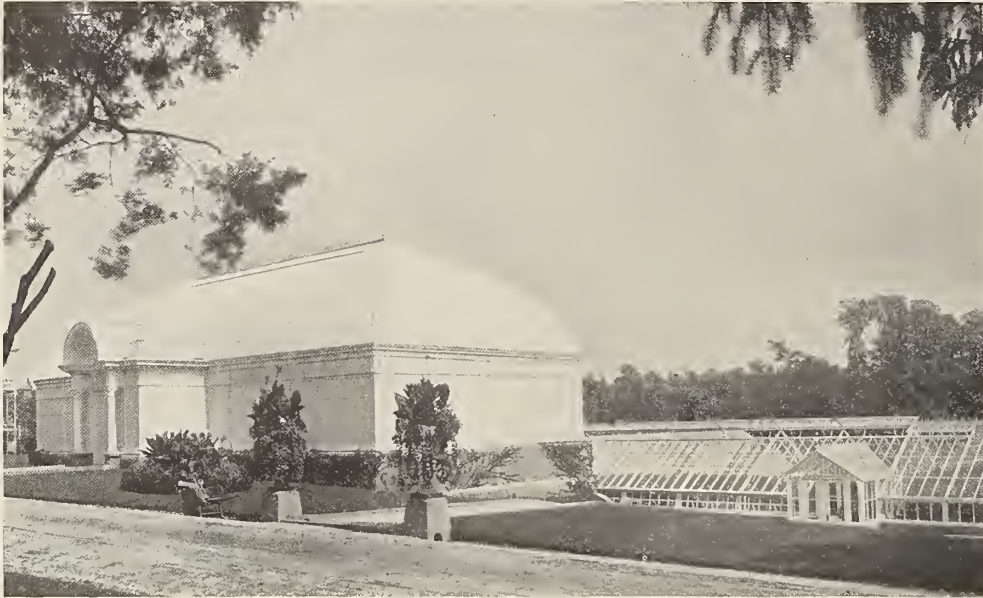
Surface of the Blocks When concrete blocks were first introduced, the attention of makers was given



RESIDENCE BUILT OF CONCRETE BLOCKS AT CLEVELAND

Blocks Made by the Hayden Machine

Cement Age



CONCRETE GREENHOUSES

Atlas Portland Cement Co.

wholly to structural excellence. Solidity, hardness and smoothness of finish were the ends sought for. This led to an undesirable and quasi-lithic masquerade which brought the system into some disrepute for domestic work. Latterly, the concrete blockmakers, instead of endeavoring to simulate stone, have treated their product more sensibly and frankly so that the blocks, as they come from the manufacturers, are rapidly assuming a more normal and pleasing form. It only requires, on the part of the manufacturers, an entire willingness to meet the architects' views in this respect, to produce an effect which will be unobjectionable. Variations in the sizes and shapes of the blocks; variations, natural or sophisticated in the texture of the surface; and a careful study of the capabilities of the material in this direction, are all that is needed to bring about the desired result. This industry is still in its infancy and taking this fact into consideration, it is really surprising what sound progress has been made in the two or three years of its existence.

Fireproof
Qualities again

What was said in the preceding article on the excellent record of concrete when subject, to the severest

tests by fire is reinforced by the following testimony quoted from *The Municipal Journal and Engineer*:

"The heat-resisting properties of concrete are a prominent subject of discussion among engineers and fire-department officials. A recent fire at Duluth, which destroyed a part of the large Peavy elevator plant, has afforded a test on a large scale, and local reports show that the material came off with all the honors of the contest. Thirty-five circular bins, 110 feet high, with a capacity of 4,000,000 bushels, directly faced the "crib" or working

elevator, the latter being completely destroyed by flames, whose heat broke glass in buildings half a mile across the bay. The bins were of steel framework, covered with concrete; they are entirely unharmed and the walls are not even blackened, the fierce heat having burned off the smoke."

A contributor to *Concrete* says, "The manufacture of concrete fence posts, along with other Portland cement products, has become a great industry. The consumption of cement posts in this country to-day is enormous and railroad companies, ranch owners, and

Concrete Fence
Posts



CONCRETE DAM AT SPRAGUE'S FALLS, ME.

Cement Age



A Concrete Cottage erected near New York at a total cost of \$4,565
Cement Age

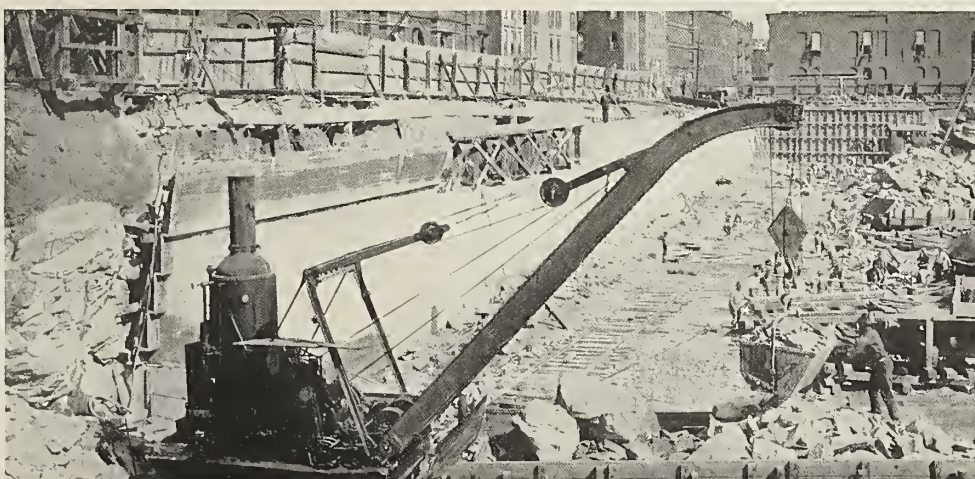


Room in Concrete Bungalow

Cement Age



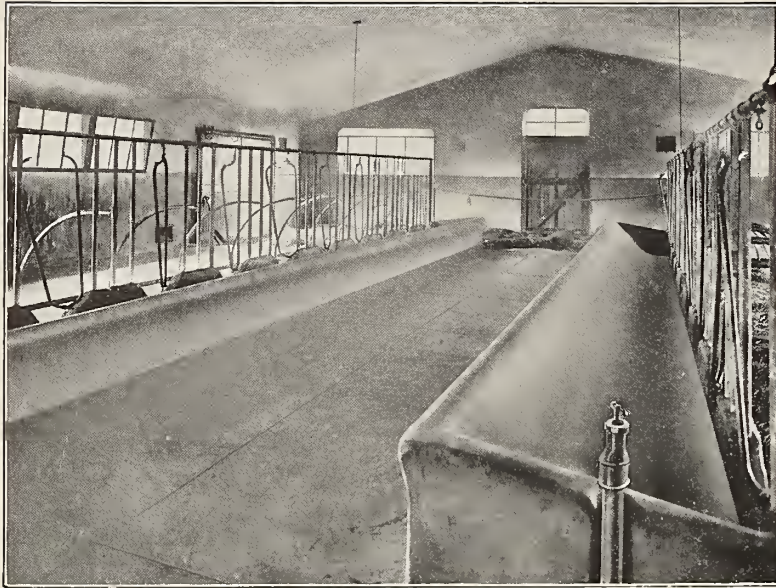
Concrete Barns and Silo
Cement Age



Concrete Retaining Wall, New York

Cement Age

House and Garden



INTERIOR OF CONCRETE COW STABLE
Cement Age

farmers throughout the country are using cement posts in large quantities and the demand is rapidly increasing. Post timber in most every state is practically exhausted, with the exception of a few cedar and black locust, which retail as high as thirty and forty cents."

Concrete Cottages

In Broad Bay, Ireland, was recently discharged a cargo of Portland cement, to be used in the erection of cottages at Aignish fishing settlement. This is the fifth vessel that has discharged material for these houses to the order of the contractors, Messrs. E. and D. Stew-

art, Fort William. The erection of these houses commenced last summer, and has been energetically carried on with the result that eighteen of them are now under roof, and the remaining fourteen of the group are well forward in other respects. The houses, with a few exceptions (which are built of stone), are built of concrete blocks cast in constructed molds on the hollow wall system, viz., two parallel vertical walls with an air space of two inches between them, which should admirably answer the requirements of the climate of the Lewis. These neat and substantial buildings, which are built by the Congested Districts Board to relieve the congestion in the Point district, to-



CONCRETE FARM BUILDINGS
Cement Age

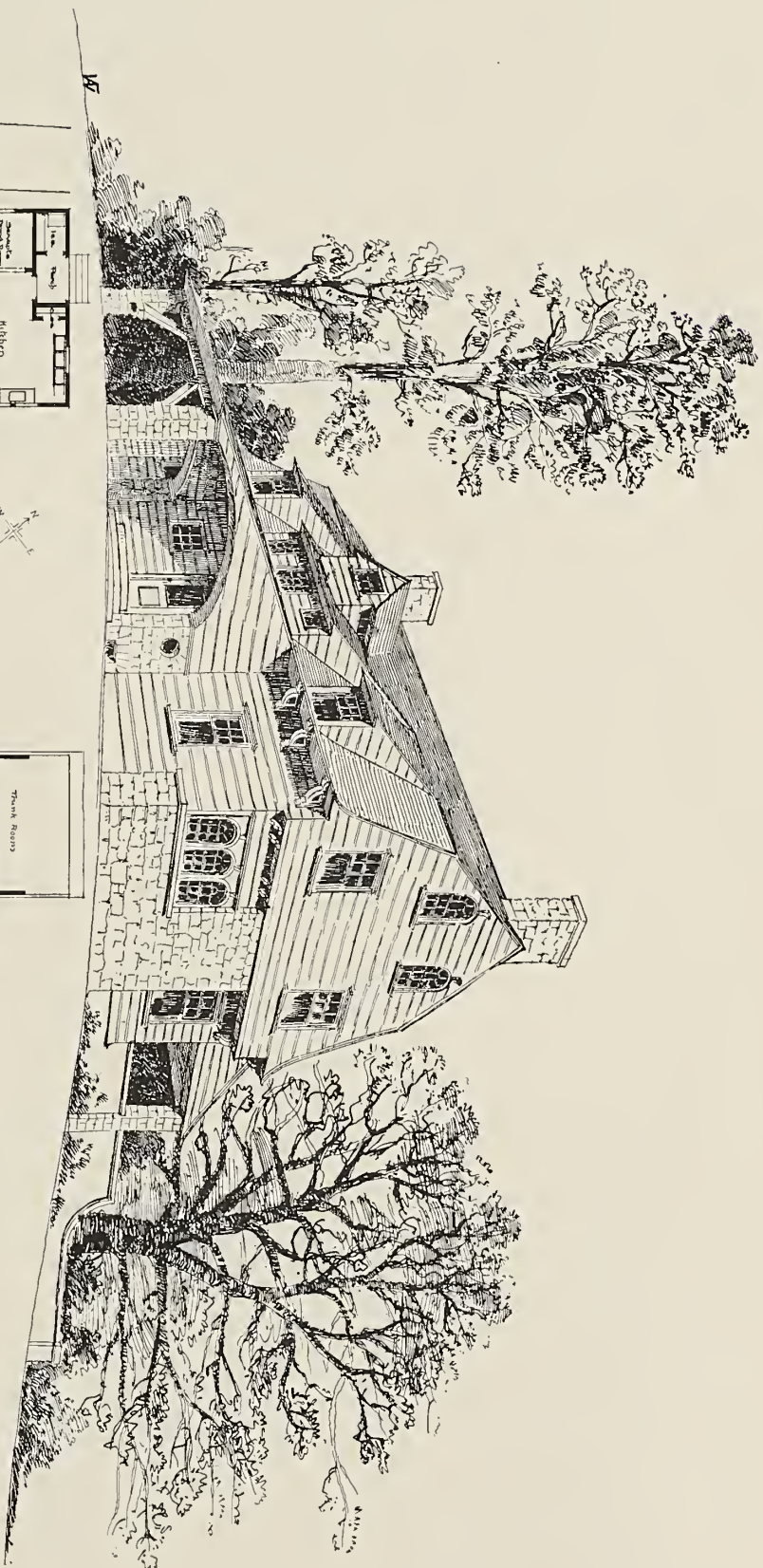
gether with four or five acres of land attached to each house, will doubtless be appreciated by the fishermen who are fortunately among the chosen. Mr. Weir, M. P., for the county, and Col. Gore Booth, consulting engineer to the Secretary for Scotland, visited the settlement recently.

It is fortunate, indeed, in view of the rapid deforesting of this country, that a material is at hand at once so simple, so natural, and above all so indigenous, to replace the native wood which was so lavishly used by our forefathers for their chief building material.

When the capacity and characteristics of concrete are not only acknowledged but frankly used as the basis for a sympathetic style of design, then it will largely replace the more expensive building processes.



BUILDING OF MOLDED CEMENT BLOCKS ERECTED FORTY YEARS AGO
Cement Age



Cottage at Bronxwood
Short Hills N.J.

Rossiter & Wright Archts.
95 Liberty St. N.Y.

This is an excellent illustration of the distinctive style of medium-cost house of which the architects have produced so many examples in the suburbs of New York. In this case unusual value has been attained, and the house is in every respect modern and complete in its class. The first storey is partly built of local stone, as shown, and the rest of the house is covered with shingles laid in double courses, twelve inches to the weather, stained light gray. The roof is covered with tiles. The exterior stone work has received a wash of La Farge cement and beach sand which gives an ivory white effect that is exceedingly agreeable. The trees shown in the illustration were sketched on the site and are in their proper relation to the house. The interior of the house is finished chestnut, stained dark brown on the first storey; painted wood work elsewhere throughout. Mantels of brick and cut stone. There are two tiled bath rooms, hot water heat and electric lights. A terraced garden (one side of which is shown in the sketch) faces the reception and living rooms. Cellar and terrace walls of concrete. The addition of the servants' dining room on the first floor is a distinct advantage to the house and fully justifies the slight increase in expense it has occasioned. The house, complete, was erected for \$8000.

GARDEN WORK IN JUNE

BY ERNEST HEMMING

THE planting season is about over and work consists principally of cleaning up and caring for the growing plants.

Owing to the daily increasing heat of the sun and the liability to drouths planting that still remains to be done should receive a little extra care. In transplanting growing plants it is always well to select a cloudy day and move the plants with a little ball of earth attached to the roots if at all possible.

The lawn should now be looking at its best. New lawns will have more or less objectionable weeds in them, such as dandelion, plantain, etc. There is really no royal road to eradicate these pests except taking them out by hand which is usually a long and tedious job. A little persistence in beginning however will work wonders. A glazier's putty knife is an excellent tool with which to take them out. Push the knife under the plant so as to cut the root below the collar or point where the leaves spring from, the plants will then come out without destroying the turf and the grass will quickly cover the bare spaces and prevent other plants from establishing themselves. Grass is one of the fittest plants to survive, hence our beautiful lawns and pastures, so do not be disheartened, one hour or less a day will work wonders.

House plants that have been in the dwelling all winter will be in a more or less weakened condition and should receive attention. Now is a good time to repot them. Knock them out of their pots and take off all loose soil that can be removed with the fingers without disturbing the roots. If the ball of earth is dry, soak it in a pail of water before attempting to repot. Do not over pot; among amateurs this is a common error. A little observation among a professional's plants will reveal a certain proportion between pot and plant. The majority of house plants after being in the dwelling all the winter will not need a larger pot; where the plant is vigorous and the pot full of roots a size larger may be given them.

The best all-round soil for potting is old sod that has been left in a pile to rot for a few months, add to this some well rotted cow manure and a little coarse sand and you have a fine compost. It is full of fibre and may be packed firmly around the roots of a plant without danger of it becoming hard and will remain porous. The failure of many plants is caused by insufficient drainage. Use clean pots, and for sizes above six inches in diameter place fully two inches of broken crocks in the bottom, then sufficient soil to admit of the plant being the right depth in the pot, upright and in the centre. Work the soil

down the sides of the pot with a blunt stick a little at a time so that it can be packed firmly and leave no interstices. Do not fill the pot too full, one inch or more for large pots and tubs should be left so as to admit of a good watering without running over the sides. When a palm, azalea, rubber or such like is properly potted it should be possible to pick it up by the stem of the plant without the pot falling off.

After potting, plunge the pots up to the rim in ashes or sandy soil in some sheltered position where they will get sun at least a portion of the day and can be watered regularly during the summer months and you will have some nice plants to take into the house for the winter. The question is often asked; what must I do with my azalea that I got in flower for Easter? If treated as above it will form buds again during the summer and flower the following spring.

This is the month of roses. Observe how the flowers are borne on stems that spring from last year's wood. Keep this in mind and you will have mastered the law governing the pruning of a rose bush. Learn to know the roses by name and they will become like old friends and prevent disappointment should you wish to add to your collection.

On the new growth no doubt the green fly or aphid is in evidence, also the caterpillar. There are many remedies for these pests, perhaps the simplest is tobacco water. Procure some common plug tobacco or tobacco stems and place in a vessel and pour water over it, let it stand until the water looks like coffee, then syringe the bushes with it. If this is done at intervals of a few days it will keep the bushes clean.

For the flying beetles that get in the open flowers and spoil them there appears to be no remedy except hand picking and watchfulness, which is a pleasure as the roses are in bloom.

It is not yet too late to plant chrysanthemums to bloom the coming fall. If they are intended to flower in the open select only the earliest flowering varieties, and plant if possible where a temporary shelter can be given them against early frosts. It is always worth while to grow a few in pots for indoor decoration in the fall.

Work in the kitchen garden consists chiefly of general attention to crops such as hoeing, thinning, watering and cultivating.

Privet hedges will soon need their first clipping to keep them looking nice. The privet grows all summer long and may be clipped almost at any time when it is convenient to do it. Evergreen hedges should not be clipped until after they have

A Newport Villa and Grounds

made their growth which is a little later in the summer.

In most localities growing fruit is almost impossible without intelligent spraying. This is too broad a subject to be treated in notes of this kind, but constant attention should be given the trees so as to

take the different pests in time as soon as they make their appearance. Do not let young trees over crop. Peaches are especially liable to this. The fruit should be thinned out as soon as they get as large as the end of the thumb or when they have passed what is called the stoning period.

A NEWPORT VILLA AND GROUNDS

RESIDENCE OF MRS. RICHARD GAMBRILL, NEWPORT, R. I.

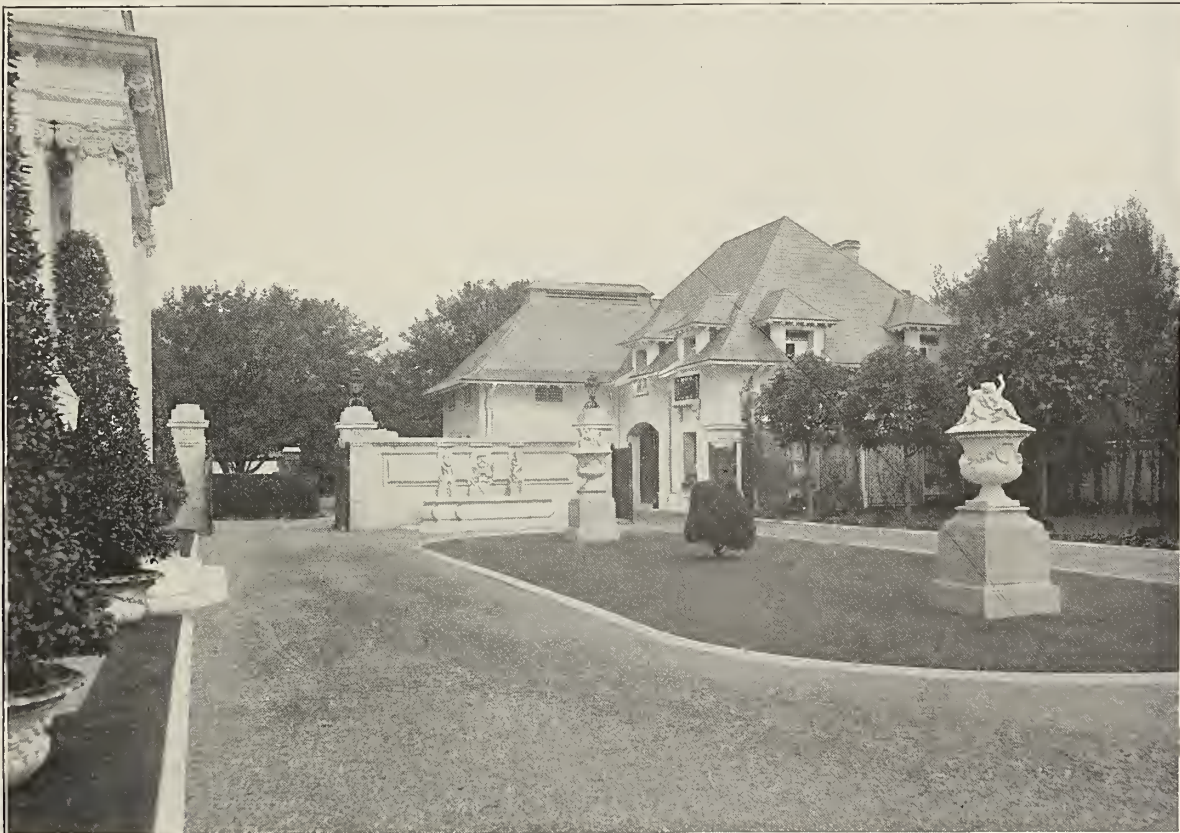
WADLEY & SMYTHE, Landscape Contractors. CARRÈRE & HASTINGS, Architects

THE accompanying illustrations show the laying out and planting of grounds, construction of roads, walks etc. of Mrs. Gambrill's new French villa at Newport, R. I., created from an open commons in less than two years.

The approach to the villa is seen through a charming vista of a double row of maples on either side of the broad drive; these maples were twenty years old when transplanted, were cut back to twenty-five feet in height, and show this fine effect after two years' growth. On either side of this driveway is a wide border of hardy ivy and specimen trained box trees. This illustration also

shows the driveway which was constructed of ten inches of rough stone laid on edge, four inches of chip stone, two inches of clay, three inches of small blue stone and one inch of screenings, all so thoroughly rolled as to result in a combination so permanent and satisfactory, that after two years of constant usage it has shown a shrinkage of less than half an inch.

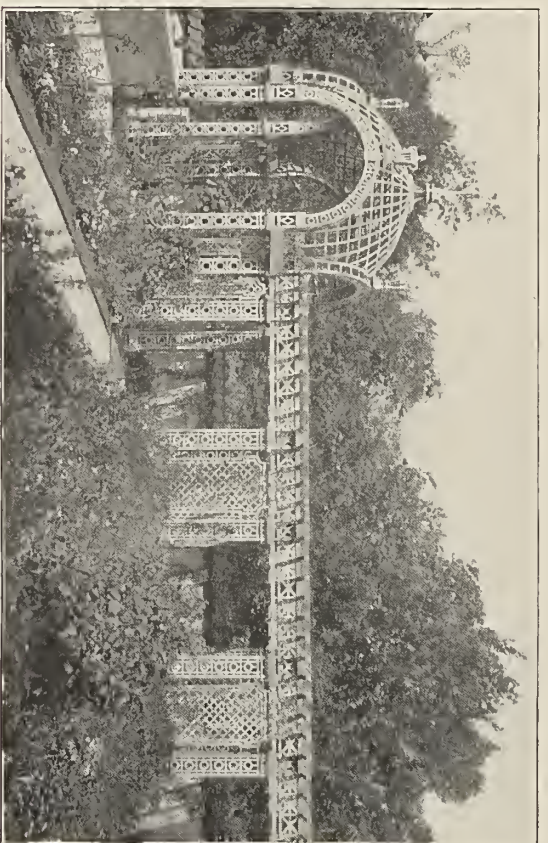
The formal garden from the marble terrace is a counterpart of the famous Hampton Court of London, England, showing the fountain and the screen of native cedars separating the avenue from the garden with a beautiful border of pink



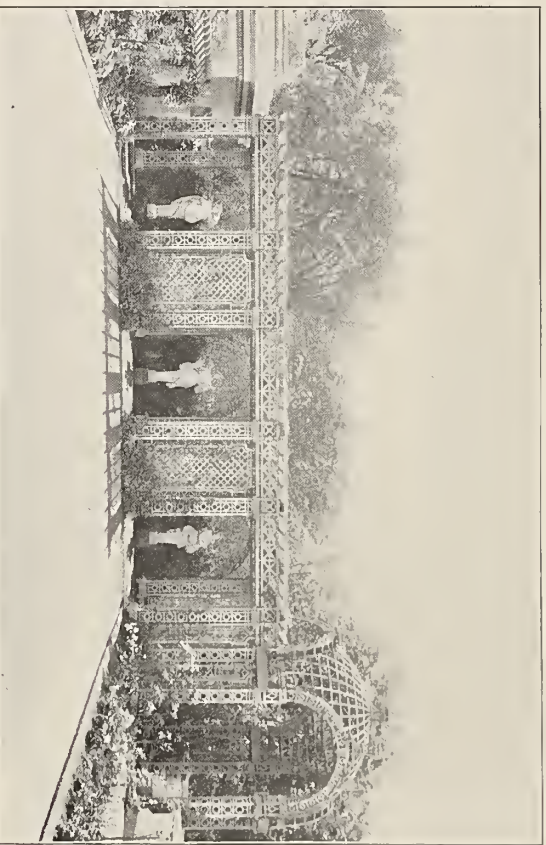
THE APPROACH TO THE HOUSE



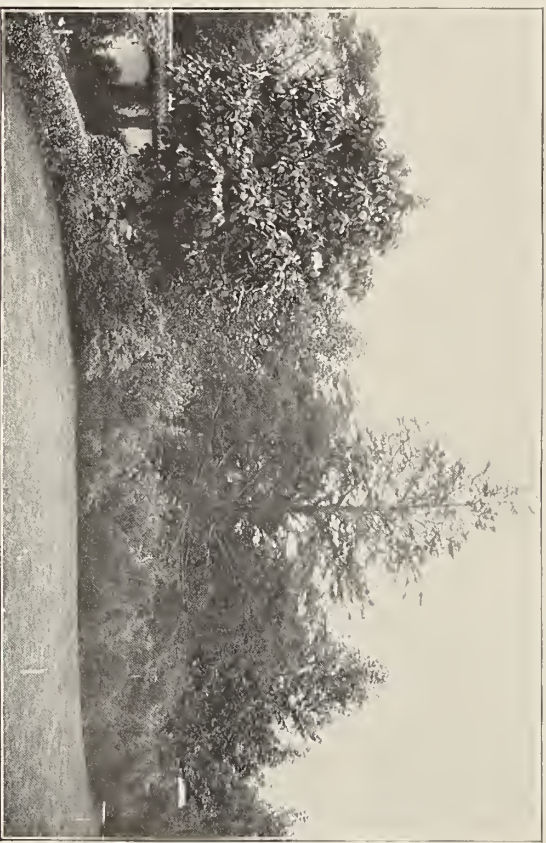
VIEW OF THE SEA FRONT



SIDE VIEW OF THE PERGOLA



THE PERGOLA FROM THE LAWN



PLANTING NEAR THE BOUNDARY WALL

A Newport Villa and Grounds

anemone. This magnificent cedar hedge is twenty feet high and every tree was carefully selected in Massachusetts and brought a distance of seventy miles. The heavy border of pink anemone is strikingly beautiful against the dark green foliage of the cedars. The view of the garden itself shows the double terrace—and the whole forms one of the handsomest developments of horticultural achievement in New England.

The illustration of the French garden gives but a faint idea of its charm and beauty. The outlook is from the north loggia and shows the planting of hardy perennials whose color scheme has been the subject of careful forethought as to color effects. A fine view of the rose arbor is also obtained from this point, which is thickly covered with the choicest varieties of climbing roses.

A beautiful group of large trees in a corner of the lawn, with a sixty-foot taxodium tree in the



THE GRAVEL WALK

centre, which was moved from the side of a wall 800 feet distant and has been growing steadily since the transplanting, form a very interesting feature of the grounds. In this group are catalpas, ginkgos, plane-trees and maples; the whole bordered with assorted evergreens.

An excellent view of the velvety lawn is shown with its richness and beauty and the fine ornamental trees, splendid specimens of the fern-leaf beech, the large copper beech and the native oak. The beautiful walk of white pebbled gravel surrounds the entire grounds for thousands of feet. Masses of tall perennials hide the wall on the opposite side. Both of these smaller views illustrate the effect from opposite directions and are equally picturesque.

This whole operation is a striking illustration of the rapidity with which the most finished and permanent effects in landscape gardening can be produced by skilled direction and modern methods.



SOME OF THE LARGER TREES. (EVERY ONE OF THESE WAS TRANSPLANTED).

THE FIRST COUNTY PARK SYSTEM IN AMERICA—I

BY FREDERICK W. KELSEY*

THE inauguration of a great system of public improvements is usually preceded by a general discussion, more or less public agitation, and sometimes, in the effort to obtain the requisite legislation, by party divisions. This has been not infrequently the case in the selection and acquirement of lands for public parks, which, owing to the great cost usually involved, becomes at once an important factor within the community or the areas affected.

The experience in the establishment of the Essex County, New Jersey, parks has been unique in the history of large public undertakings. Unlike similar enterprises, no hindrances obtained or objections were raised. The first recommendations were in favor of direct application and early action, and were of such comprehensive scope, that they were especially open to attack by a disaffected press, party or public. As a matter of fact the reverse conditions prevailed. So smoothly and rapidly did events culminate that comparatively few persons not directly interested apparently appreciated the significance of the movement, or what it meant for the future. Now

that nearly twelve years have elapsed since the inception of the enterprise, there are very many who know little as to the details of the original plans for the acquirement and development of the parks, and many more who know even less about the causes and conditions which have led to the present status of the county park movement. But the fact that this system has now cost more than \$5,000,000 is conclusive evidence of the generosity of the people in favoring the appropriations for a scheme, whose general principles they understood and approved.

The comprehensive scope of the plan included a scheme or chain of parkways for the entire county, including Franklin parkway in the northeast and the South Mountain reservation on the southwest, with Montclair park on the northwest and the Weequahic reservation and East Side park, Newark, on the southeast.

The legislative coast was apparently all clear for favorable action, all that was needed, therefore, was a concise, easily understood plan that would conserve and unify all interests.



BRANCH BROOK PARK

* Courtesy of the J. S. Ogilvie Publishing Company, 57 Rose Street, New York

The First County Park System in America

Fully appreciating these underlying conditions, the Orange committee went quite exhaustively into the subject, endeavoring first to ascertain how the desired results could best be accomplished. The formulative plans and accompanying legislation of established park systems were considered. The intent was to select the more desirable features of each, based upon practical experiences elsewhere, to simplify those commending themselves to the committee as the most effective and practicable, and then to formulate a general plan that would be in every way adaptable to the municipal, taxable and topographical conditions, of Essex County.

As this communication and plan soon became the foundation upon which the superstructure of the movement for a county park system and the favorable legislation that soon followed rested, the letter is here given in full. It is as follows:

"Agreeable to the understanding at our meeting Saturday evening, fourteenth instant, I note below the principal features of the plan unanimously approved by all the members of both committees then present, as being the most feasible for establishing a system of parks and parkways:

"First—That action be taken by a special commission, authorized by legislative enactment applicable to Essex County.

"Second—That such commission be composed of five members appointed by the resident judge of the Supreme Court, and that an appropriation be provided by a direct charge upon the county for requisite expenses, surveys, plans, etc., the commissioners to serve without compensation.

"Third—That the commission be strictly non-

partisan, its members selected for fitness, with the object of devising the best scheme for a system of parks that is practicable for the entire district.

"The more we consider this plan the more simple, direct and effective it appears. It provides for immediate action. It admits of comprehensive treatment for the whole section from the Passaic River to the Second Mountain, without complications

or delay incident to so many local governing bodies attempting to solve the problem. The method of appointment, free from political or speculative interference, should at once enlist the confidence and support of the community favorable to the enterprise. A bill, simple in its provision for the carrying out of this plan, and affecting only counties of the first class, could hardly meet with reasonable objection in the Legislature. Every one recognizes that a well-devised public park system for this great Essex County population would be not only of great benefit and value to every locality, but of immense importance to the State as well. Every home in the entire section would be made more attractive and valuable; every piece of property would share in the improvement as a whole; and the cost



HEMLOCK FALLS—SOUTH MOUNTAIN RESERVATION

be largely compensated in this way."

The plan met with immediate popular approval. The leading papers favored it. Various civic organizations passed resolutions commending it, and public-spirited citizens in many different portions of the county wrote strong personal letters favoring its prompt adoption.

No opposition of the slightest weight or significance appeared in any quarter of the territory involved.

HOUSE AND GARDEN CORRESPONDENCE

TERRACING OF GROUNDS

As a regular subscriber to your valuable periodical from its very beginning permit me to request you to give me some understanding as to the proper methods to pursue for successful terracing of grounds. Last year I had four terraces constructed, 140 ft. long, 16 ft. high and about 16 ft. deep which gave me a space about 28 ft. deep on top of each terrace. At first I graded the tops to pitch forward one inch in 5 ft. and even though every sod was staked on the front slope, I had extensive washouts. Then I pitched the tops backwards and had a gutter in the rear of each terrace that directed the water to the sewer on one side. After that all went well and the terraces were the delight of the neighborhood for the past six or eight months. After a recent heavy rain I found to my horror that enormous land slides of the sod and earth about 1 ft. back of it had taken place on a part of each terrace and I am now seeking advice as to the best method of saving that which remains and building up the old to prevent recurrence.

A. E. S. (M. D.)

The nature of the soil of which terraces are constructed has most to do with their stability. This you do not state, but from the experience you have had I should judge it to be of a free or sandy nature.

However, terraces properly constructed of the dimensions given should be able to stand all the rain that falls upon them, providing the water shed above and around them is properly taken care of.

Your first method of construction giving the top levels a slight pitch forward was the better one: the washouts you experienced were no doubt caused by poor workmanship, the lines of the terrace being so graded as to collect the water at certain points, during heavy rains instead of having it spread evenly over the entire length of the terrace before following the slopes.

Pitching the tops backward towards the terrace above is a fault in construction, as it really collects the water where it is not wanted, and not being able to drain away rapidly enough finds its way to hard-pan and starts a landslide of the newly filled portion. This method, however, might have given no trouble had there been a large enough pipe laid with open joints to take both surface and subsurface drainage, sufficient catch basins being placed at regular intervals. The pipe of course would have to be carefully laid with ample fall and with sufficiently large and graded outlet.

We would suggest lifting the sod on the top of the terraces and returning to the original pitch of one in. in five ft. or less and grading the terraces along their length level if possible, following the recommendations as above suggested with pipe and basins in a slightly depressed gutter at base of slopes. The pipes should be laid on well tamped or water-tight bottoms.

E. H.

A NEW VEGETABLE

Mr. David Fairchild, Agricultural Explorer in charge of Foreign Explorations, U. S. Department of Agriculture, is introducing a new vegetable to the American table that will be appreciated by many. Mr. Fairchild found in Japan a herbaceous representative of the genus *aralia*, the stalks of which are edible. Our best known species of the *aralia* is *Aralia spinosa*, the Devil's walking stick, or Hercules' club.

There are two varieties known in Japan as "Kan Udo" and "Moyashi Udo." The first is raised from seed, planted out in rich soil in rows four feet apart and eighteen inches in the row. It is allowed to grow until early September when it should reach a height of four to five feet. It is then cut to the ground, and the soil mounded over the row some eighteen inches high. In forty to sixty days blanched shoots twelve or more inches long will be forced up through the soil, which are then ready for the table. This plantation, being perennial should last, with increasing strength ten or more years.

The "Moyashi Udo" is treated differently, being grown from roots only, which are propagated from root cuttings, and is intended for winter forcing. The roots are planted out in the spring and allowed to grow until the frost cuts down the foliage, when the roots are taken up, stored in dry straw in a cool place free from frost, until wanted for forcing.

In the warmer portions of the United States this forcing may be done outdoors in a trench, but as a general rule hothouse treatment will be required. As an experiment I forced a dozen roots in my greenhouse using two ten inch pots and inverting over them similar sized pots filled with leaf mould. In twenty-four days the blanched shoots, some twelve inches long, were ready for the table.

This is called a Japanese salad plant, but in the absence of knowledge as to how to prepare it for a salad, I concluded to have it boiled in water and served in a cream sauce on toast, the same as asparagus is often served. The result was a most delicate dish, pleasing to the palate of all who tried it. The flavor is so delicate that I can't describe it. If confined to this method of preparation alone, it is worthy of cultivation, but undoubtedly our cosmopolitan American cooks will devise many ways to serve it.

W. C. E.

We have received the following communication from Professor Goodyear which we gladly make room for:

"The reprint in your number for April of Mr. Edward S. Prior's comments on the recent exhibition of Mediæval Architectural Refinements at Edinburgh has come to my notice.

"My reply to Mr. Prior's article will shortly appear and I hope you will find it worthy of as much space as you have given to that article. Meantime by publishing this letter you will greatly favor

Respectfully yours,

Wm. H. Goodyear,

Curator of Fine Arts in the
Brooklyn Museum."





